

CHAPTER 2

INTEGRITY WOOD-ULTREX CASEMENT (ICA) INTEGRITY WOOD-ULTREX AWNING (IAWN) INTEGRITY WOOD-ULTREX CASEMENT PICTURE (ICAP) INTEGRITY WOOD-ULTREX CASEMENT TRANSOM (ICATR)

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ATTENTION:

- Specifications and technical data are subject to change without notice.
- Dimensions in parenthesis are in millimeters or square meters
- Allow 1/16" (2) tolerance on all measurements.
- Interior mullion trim shipped loose for field installation.
- For answers to technical questions about Integrity products you may call our Integrity Support Line: 1-800-587-2712.
- Website: www.marvin.com

UNIT FEATURES

FRAME AND SASH:

The frame and sash exteriors are made of Ultrex[®], an advanced fiber reinforced material that is resistant to thermal conductance. Ultrex patented coating system meets all the requirements of AAMA 624-10. Exterior colors: Stone White, Pebble Gray, Bronze, Evergreen, Cashmere, or Ebony. The interior is non finger-jointed pine, kiln dried to a moisture content of 6–12% at time of fabrication. Water-repellant, preservative treated in accordance with WDMA I.S.4. Interior wood is available as Pine bare wood or factory-applied white interior finish.

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. Interior wood is available as Pine bare wood or factory applied white interior finish. 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:

6 9/16" (167) and 6 13/16" (173) jamb extension available factory applied or in lineal lengths for field application.

HARDWARE – CASEMENT:

Dual arm roto hardware factory installed on casement units. The 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, the hinge arm is E-coated high strength, low alloy steel and the hinge shoe is an 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, and Oil Rubbed Bronze 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 and white finishes.

HARDWARE – AWNING:

Scissors arm roto hardware factory installed on all awning units. The Roto hardware is an E-coated high strength, low alloy steel. The hinge track and hinge arms are E-coated high strength, low alloy steel, and injected molded with a stainless steel insert. Folding handle with removable snap fit covers are available in Almond Frost or White color finish. Optional Brass, Satin Nickel, and Oil Rubbed Bronze hardware available. A single point lock on each jamb/stile, with a removable escutcheon handle. Optional coastal hardware is available. Optional factory installed or field applied stainless steel sash limiter is available.

INSTALLATION:

Factory applied folding nailing fin and drip cap system. Optional installation brackets for masonry available. Optional through jamb installation method on non-impact units only. 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. Impact glazed units require installation clip with nailing fin on all sizes for installation.

GLAZING:

Dual-pane units are manufactured with an 11/16" (17) IG with Low E2, E3, and E1 coatings including argon gas 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. All glass is of a select quality complying with ASTM C 1036. Insulating glass is manufactured and tested to pass level ASTM E 2190 and is IGCC certified. 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. STC and OITC ratings are tested in accordance with ASTM E 90–09. See the Product Performance chapter for values.

CE GLAZING:

Dual-pane units are manufactured with an 11/16" (17) IG with Low E2, E3, and E1 coatings including argon gas 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 is available as an option. CE marked IG units comply with EN 1279 and EN 12150 (fully tempered). The glazing seal is a silicone bedding on both interior and exterior surfaces utilized in a sandwich style sash. CE glazing is available on operator and stationary casement units up to CN3771. Awning units, operable and stationary are available up to CN4947. Casement pictures and transoms are not available with CE mark. Bows and Bays are not available with CE mark.

IMPACT GLAZING:

Optional Impact Zone 3 available on selected sizes. Zone 3 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. Not available with CE product.

WEATHER STRIP:

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

SCREEN:

Roll formed aluminum frame with corner key construction, available in an Almond Frost or White. Optional wood veneer screen available. Charcoal color fiberglass (non-corrosive) screen cloth. Spring loaded pins for installation.

REMOVABLE INTERIOR GRILLES:

Bar: Pine wood, 3/4" (19) Pattern: Standard rectangular pattern. Available in Pine bare wood or factory applied white finish.

UNIT FEATURES

INTERIOR / EXTERIOR SIMULATED DIVIDED LITES (SDL):

Interior bar: 7/8" (22) wide bars. Pine bare wood with optional composite white interior finish. Exterior bar: Ultrex, 7/8" (22) wide bars, finish to match exterior. Patterns available: rectangle, 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.

GRILLES-BETWEEN-THE-GLASS (GBG):

23/32" (18) contoured aluminum bar placed between two panes of glass. Pattern: Standard rectangular pattern, or optional 9 lite Prairie cut. Exterior color determined by frame color. Interior Colors: White or Bronze. GBGs are not available on Impact units.

EXTERIOR CASING:

Non-integral to the unit. Fastened to the exterior wall with barb and kerf 2" (51) brick mould 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 MEASUREMENTS – 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 MEASUREMENTS – 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 OPENING MEASUREMENTS – 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	1-10 25/32	(579)	0-10 17/32	(268)	1.67	(0.15)
2919	1-10 25/32	(579)	1-1 29/32	(353)	2.2	(0.20)
3316	2-2 25/32	(680)	0-10 17/32	(268)	1.96	(0.18)
3319	2-2 25/32	(680)	1-1 29/32	(353)	2.59	(0.24)
3716	2-6 25/32	(782)	0-10 17/32	(268)	2.25	(0.21)
3719	2-6 25/32	(782)	1-1 29/32	(353)	2.97	(0.28)
4116	2-10 25/32	(884)	0-10 17/32	(268)	2.55	(0.24)
4119	2-10 25/32	(884)	1-1 29/32	(353)	3.36	(0.31)
4916	3-6 25/32	(1087)	0-10 17/32	(268)	3.13	(0.29)
4919	3-6 25/32	(1087)	1-1 29/32	(353)	4.13	(0.38)
5716	4-2 25/32	(1290)	0-10 17/32	(268)	3.72	(0.35)
5719	4-2 25/32	(1290)	1-1 29/32	(353)	4.91	(0.46)
7316	5-6 25/32	(1696)	0-10 17/32	(268)	4.89	(0.45)
7319	5-6 25/32	(1696)	1-1 29/32	(353)	6.45	(0.60)

DAYLIGHT OPENING MEASUREMENTS – 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)

CN	Daylight Opening Width		Daylight Opening Height		Daylight Sq Feet	
	ft-in	mm	ft-in	mm	ft ²	m ²
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 OPENING MEASUREMENTS – 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)
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
ICA (OP)	1731	16	(406)	31 1/8	(791)	3771	36	(914)	71 1/8	(1807)
ICA (STAT)	1731	16	(406)	31 1/8	(791)	3771	36	(914)	71 1/8	(1807)
IAWN (OP)	2519	24	(610)	19 1/8	(486)	4947	48	(1219)	47 1/8	(1197)
IAWN (STAT)	2519	24	(610)	19 1/8	(486)	4947	48	(1219)	47 1/8	(1197)
ICAP	1719	16	(406)	19 1/8	(486)	7359	72	(1829)	59 1/8	(1502)
	1719	16	(406)	19 1/8	(486)	5771	56	(1422)	71 1/8	(1807)
ICATR	1716	16	(406)	15 3/4	(400)	7319	72	(1829)	19 1/8	(486)

Minimum and Maximum Guidelines - Impact Product										
Unit Type	Frame Size									
	CN	Min Width		Min Height		CN	Max Width		Max Height	
		in	mm	in	mm		in	mm	in	mm
ICA (OP)	1731	16	(406)	31 1/8	(791)	3771	36	(914)	71 1/8	(1807)
ICA (STAT)	1731	16	(406)	31 1/8	(791)	3771	36	(914)	71 1/8	(1807)
IAWN (OP)	2519	24	(610)	19 1/8	(486)	4947	48	(1219)	47 1/8	(1197)
IAWN (STAT)	2519	24	(610)	19 1/8	(486)	4947	48	(1219)	47 1/8	(1197)
ICAP	3739	36	(914)	39 1/8	(994)	7355	72	(1829)	55 1/8	(1400)
	3739	36	(914)	39 1/8	(994)	5771	56	(1422)	71 1/8	(1807)
ICATR	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)

Minimum and Maximum Guidelines - CE Product										
Unit Type	Frame Size									
	CN	Min Width		Min Height		CN	Max Width		Max Height	
		in	mm	in	mm		in	mm	in	mm
ICA	1731	16	(406)	31 1/8	(791)	3771	36	(914)	71 1/8	(1807)
IAWN	2519	24	(610)	19 1/8	(486)	4947	48	(1219)	47 1/8	(1197)

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

CERTIFIED SIZES – STANDARD PRODUCT and IMPACT

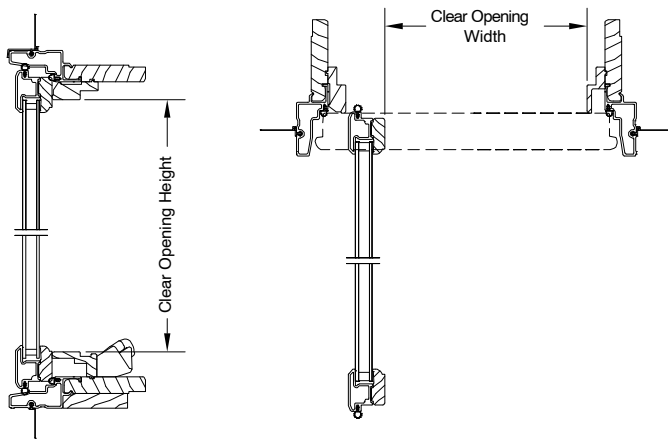
Product	Air Tested to psf	Water Tested to psf	Certification Rating	Max Overall Width	Max Overall Height
Integrity Wood Casement (3771)	1.57	7.5	LC-PG50-C	36	71 1/8
Integrity Wood Awning (4947)	1.57	7.5	LC-PG50-AP	48	47 1/8
Integrity Wood Picture (7359)	1.57	7.5	LC-PG50-FW	72	59 1/8
Integrity Wood Picture (5771)	1.57	8.25	LC-PG50-FW	56	71 1/8

Product	Air Tested to psf	Water Tested to psf	Certification Rating	Max Overall Width	Max Overall Height
Integrity Wood Casement (3771) Impact Rated	1.57	8.25	LC-PG55-C	36	71 1/8
Integrity Wood Awning (4947) Impact Rated	1.57	8.25	LC-PG55-AP	48	47 1/8
Integrity Wood Picture (5771) Impact Rated	1.57	8.25	LC-PG55-FW	56	71 1/8
Integrity Wood Picture (5771) Impact Rated	1.57	8.25	LC-PG55-FW	72	55 1/8

EGRESS MEASUREMENT / EGRESS FORMULA and CONVERSIONS

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 - 4.400" (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 code department for IBC and IRC requirements.

STANDARD MEASUREMENT CONVERSIONS		
UNITS	WIDTH	HEIGHT
Masonry Opening to Rough Opening	+ 1/2" (13)	+ 1/4" (6)
Outside Measurement of Frame to Rough Opening	+ 1" (25)	+ 1/2" (13)
Glass Size to Rough Opening	+ 5 3/16" (132)	+ 4 11/16" (119)
Outside Measurement of Sash to Rough Opening	+ 2 11/16" (68)	+ 2 3/16" (56)
Rough Opening to Daylight Opening	- 6 7/32" (158)	- 5 23/32" (145)
ALUMINUM SCREEN		
Rough Opening to Outside Measurement of Screen	- 4 29/64" (113)	- 4 27-64" (112)
WOOD VENEER ALUMINUM SCREEN		
Rough Opening to Outside Measurement of Screen	- 4 1/2" (114)	- 4 15/32" (113)
IMPACT GLAZED IZ3		
Rough Opening to Glass Size	- 5 11/32" (136)	- 4 27/32" (123)

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

NOTE: CE mark is not available on factory mullered units

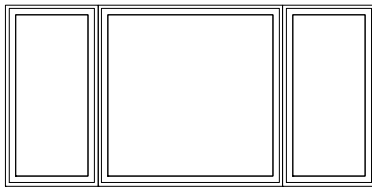
Rough Opening for Assemblies

WIDTH:

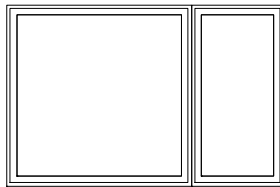
- Frame Width = ADD Frame Widths + 1" (25)
 - Tolerance = 1/2" (13) from frame to Rough Opening at left and right jamb.

HEIGHT:

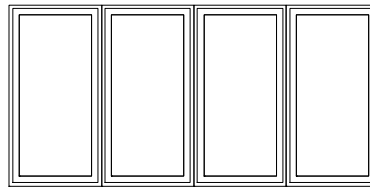
- Frame Height = ADD Frame Heights + 1/2" (13)
 - Tolerance = 1/2" (13) from Frame to Rough Opening at head jamb.



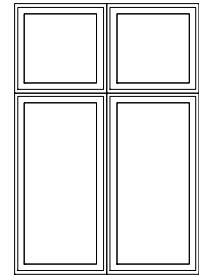
3 Units Wide 1 Unit High



2 Units Wide 1 Unit High



4 Units Wide 1 Unit High



2 Units Wide
2 Units High

IMPACT MULLING GUIDELINES

Factory Mulling

The Wood-Ultrex Casement may be mullled to Wood Ultrex Casement products, Direct Glaze Polygon, Integrity Round Tops and Integrity Round Tops by Marvin.

Standard mull limits (all factory mulls)

- o Maximum Mullled Assembly RO Size
 - 4 units wide x 1 unit high – 113" (2870) x 71-5/8" (1819)
 - 4 units wide x 5 units high – 85" (2159) x 94-3/4" (2407)

Field Mulling beyond the above limitations is not recommended

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

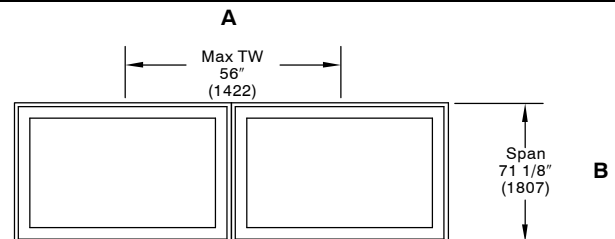
If assemblies have individual units that have a lower design pressure than the mull; the entire assembly is rated at the lower design pressure.

Mull certification includes 12" mull brackets fastened at all mull joints.

Items not included in certified mulls: Standard mull assemblies, Integrity round tops, Integrity round tops by Marvin.

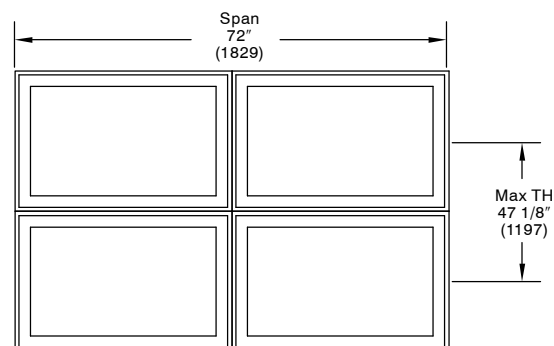
1 Directional Mull Limits				
Product	Max Span	Max TW or TH	Max R.O.	DP
WU Casement Vertical Mulling IZ3	71 1/8" (1807)	56" (1422)	113" x 71 5/8" (2870) x (1819)	+55/-65
WU Casement Horizontal Mulling IZ3	72" (1829)	47 1/8" (1197)	73" x 94 3/4" (1854) x (2407)	+55/-65

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" x 94-3/4"
 Max TH – 47-1/8", Span – 72"
 No non-reinforced mull joints
 Reinforcement is continuous across horizontal member



STANDARD SIZE CHARTS – CASEMENT

Casement 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)

Casement 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
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)

NOTE: CE mark is available on operable and stationary units up to CN 3771.

For standard casement elevations, visit:

www.marvin.com

For impact casement elevations, visit:

www.marvin.com

STANDARD SIZE CHARTS – AWNING

Awning 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
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)	2-10 5/16	(872)	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)

Awning 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)
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)
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)

NOTE: CE mark is available on operable and stationary units up to CN 4947.

STANDARD SIZE CHARTS – CASEMENT / AWNING 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)

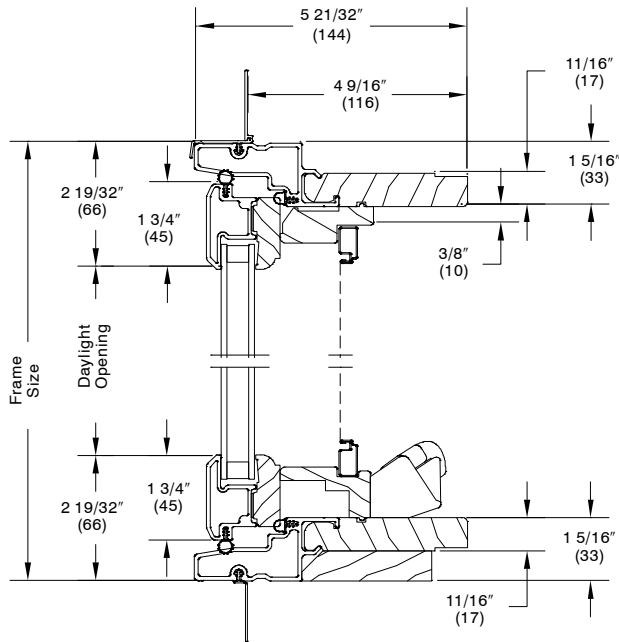
NOTE: CE mark is not available on Casement / Awning transoms.

STANDARD SIZE CHARTS – CASEMENT PICTURE

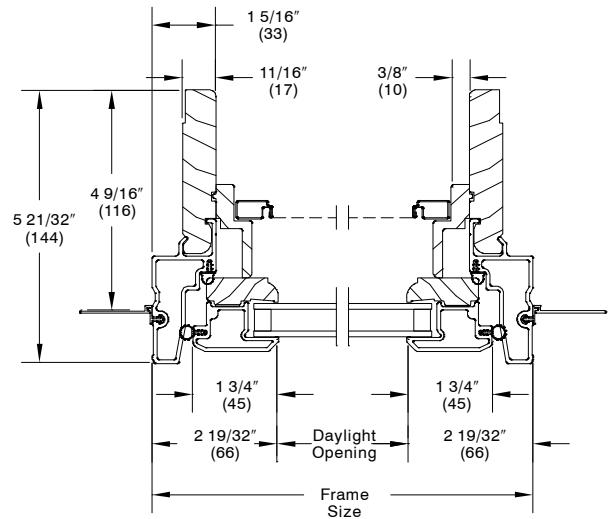
Casement/Awning Picture Unit Measurements										
Width										
CN	Masonry Opening		Rough Opening		Frame Size		Sash Size		Daylight Opening	
	ft - in	mm	ft - in	mm	ft - in	mm	ft - in	mm	ft - in	mm
17	1-4 1/2	(419)	1-5	(432)	1-4	(406)	1-2 5/16	(364)	0-10 25/32	(274)
21	1-8 1/2	(521)	1-9	(533)	1-8	(508)	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)

**CASEMENT/AWNING
 OPERATING – 4 9/16" (116)**

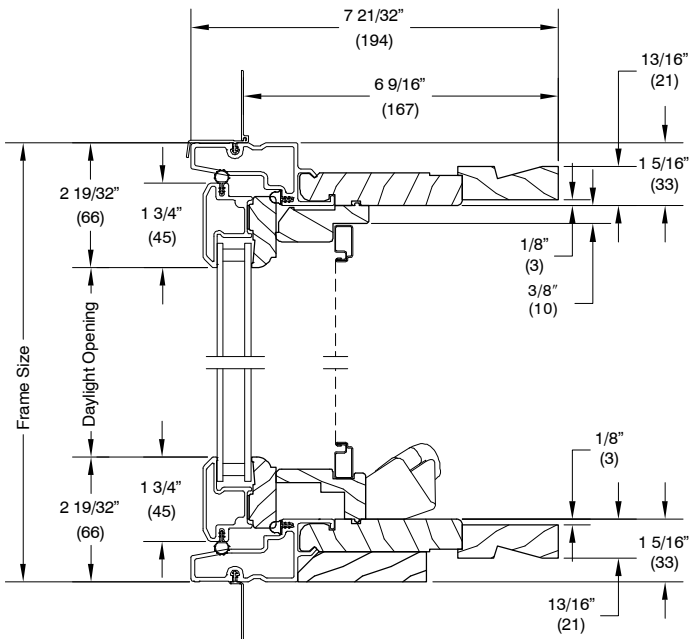


Head Jamb and Sill

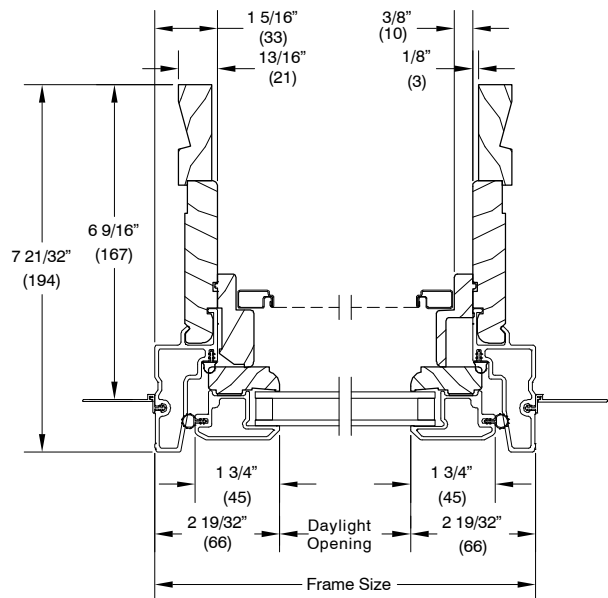


Jamb

OPERATING – 6 9/16" (167)

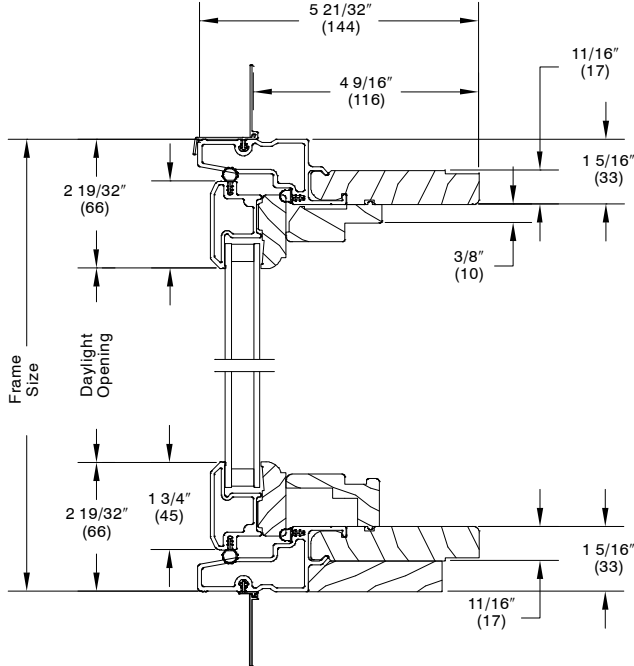


Head Jamb and Sill

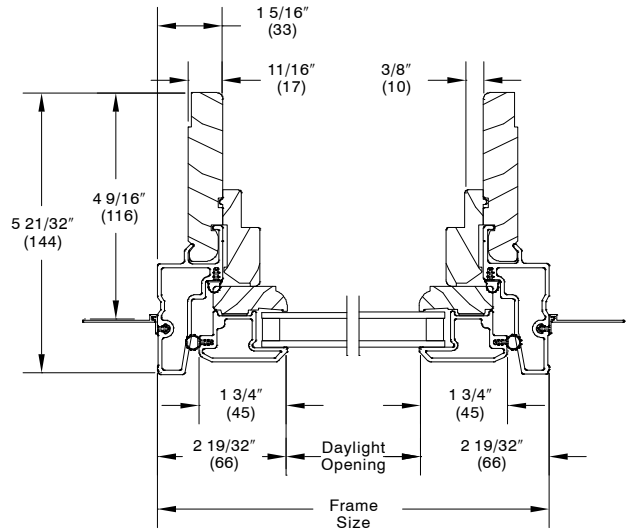


Jamb

**CASEMENT/AWNING
STATIONARY/PICTURE – 4 9/16" (116)**

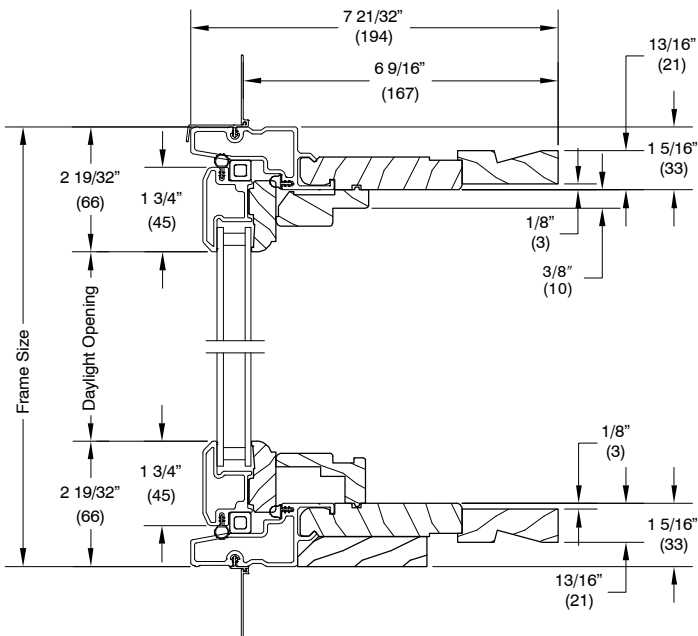


Head Jamb and Sill

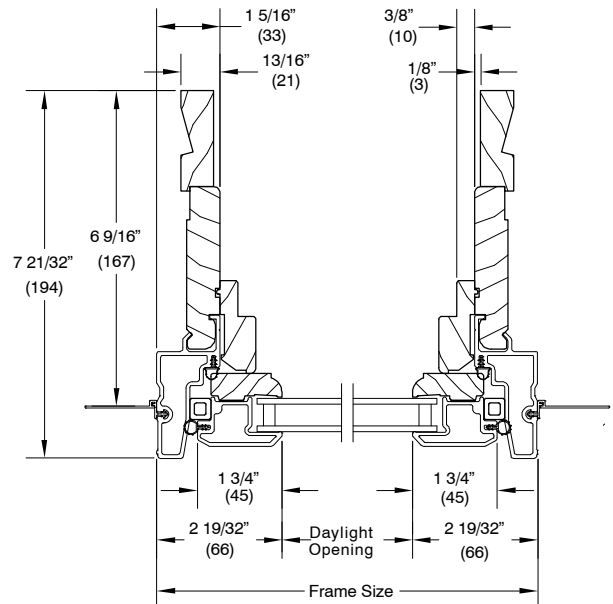


Jamb

STATIONARY/PICTURE – 6 9/16" (167)

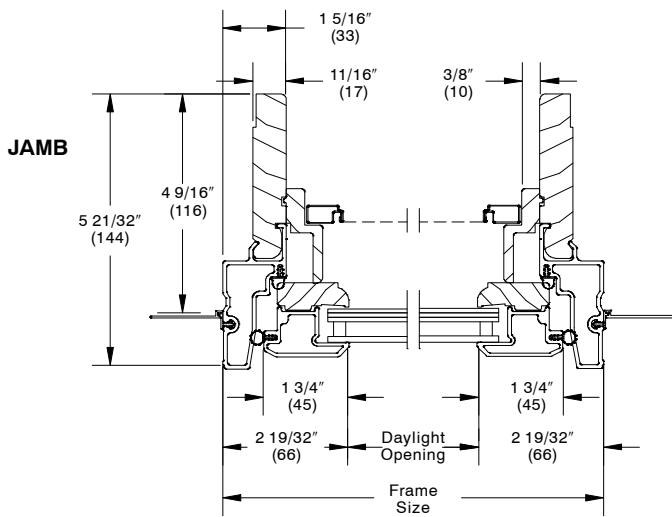
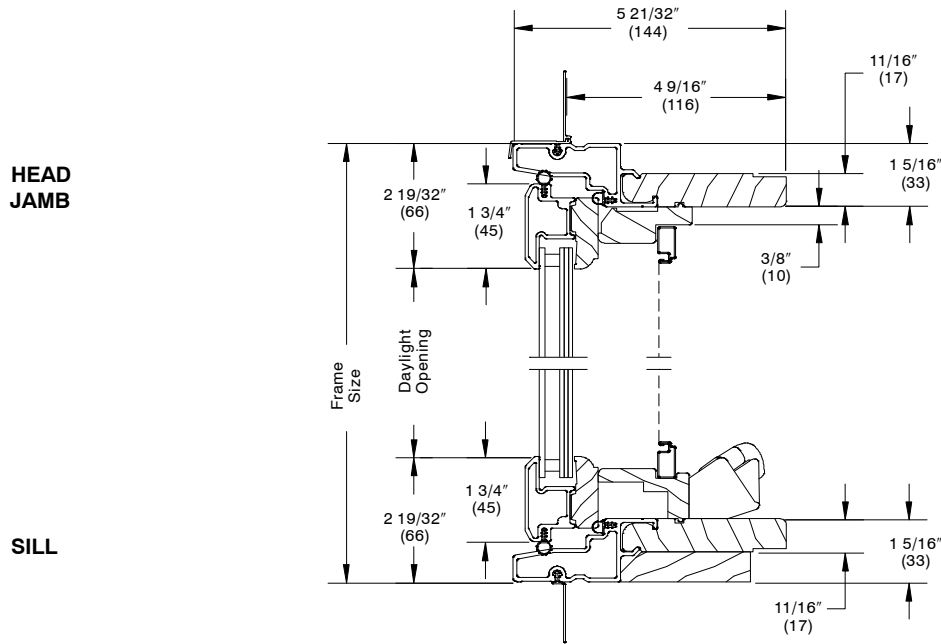


Head Jamb and Sill

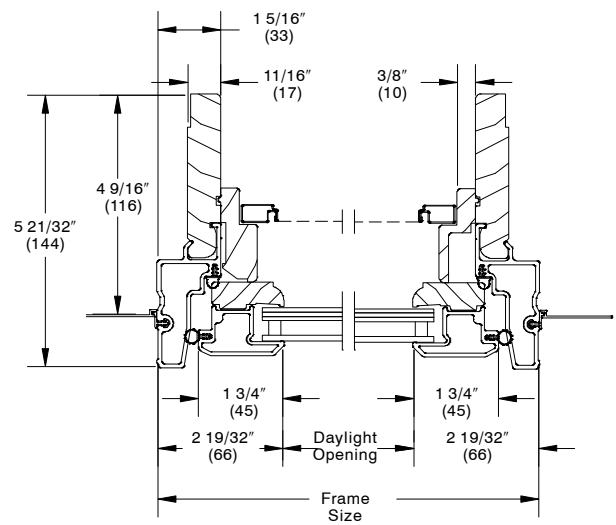


Jamb

CASEMENT IMPACT GLAZING

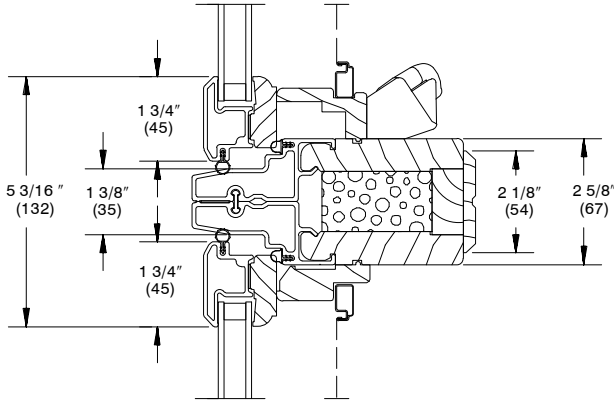


AWNING

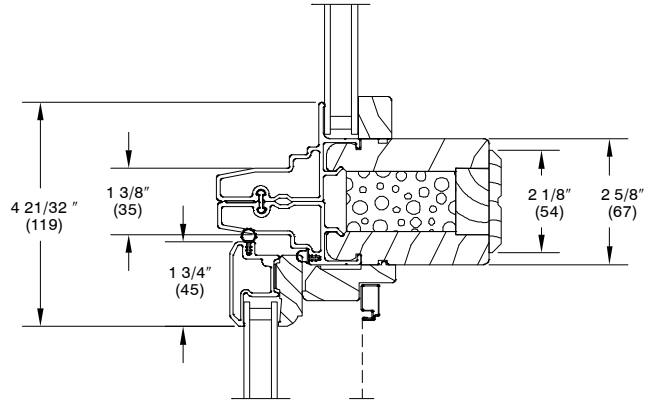


CASEMENT

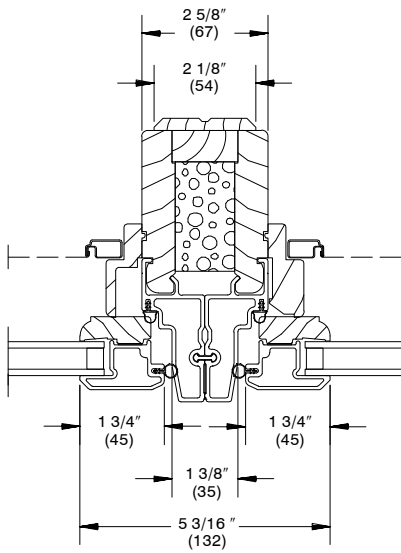
SECTION DETAILS – MULLIONS Scale 3" = 1' 0"



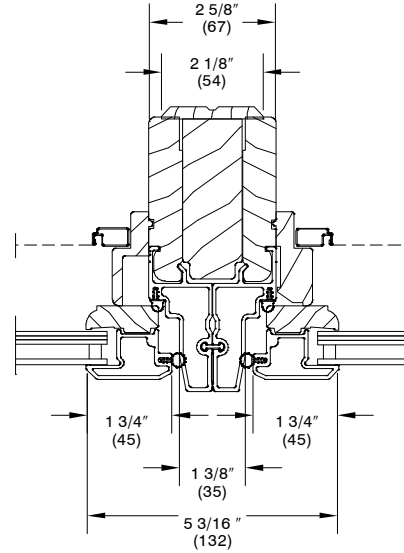
AWNING OVER CASEMENT UNIT



DIRECT GLAZE POLYGON OVER CASEMENT



**CASEMENT OR AWNING UNITS
2 WIDE**

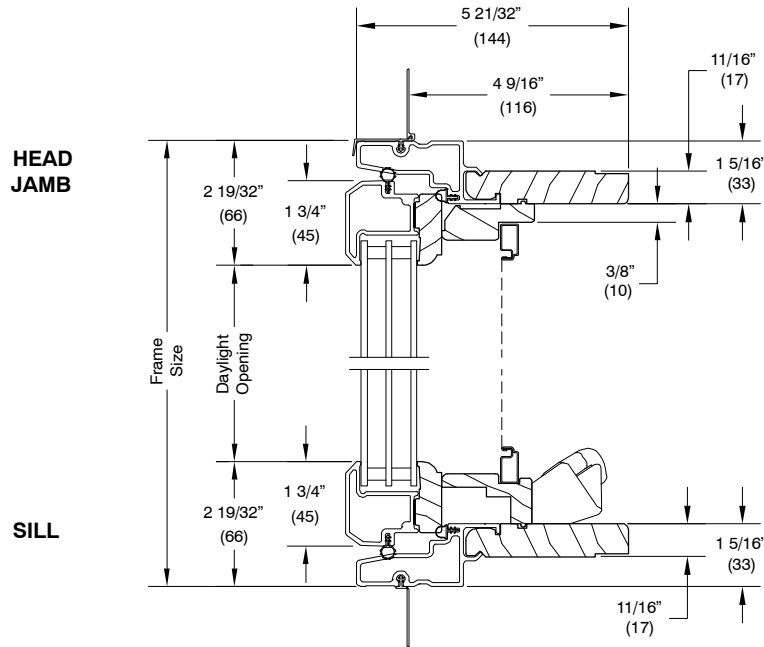


**REINFORCED CASEMENT OR AWNING UNITS
2 WIDE**

NOTE:

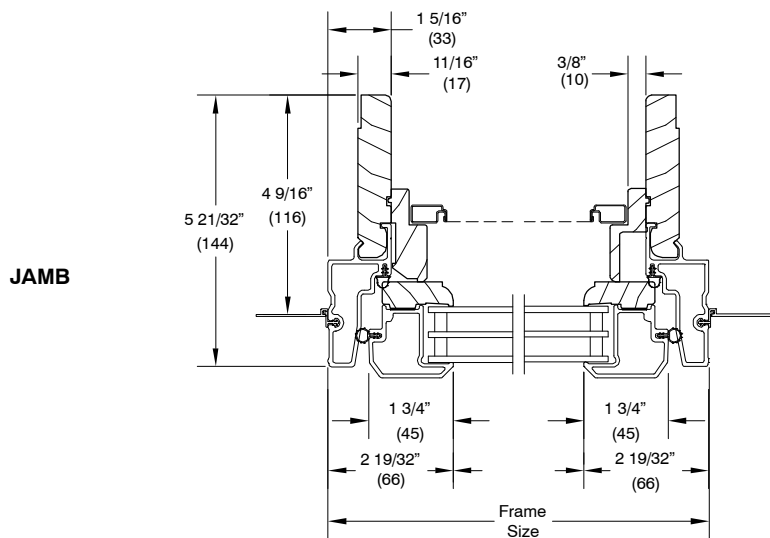


Represents units that are certified for Impact glazing with a wind zone 3.



STAT JAMB

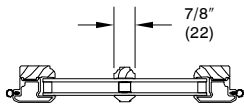
OPER JAMB



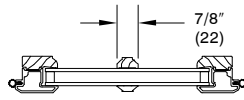
JAMB

DIVIDED LITE OPTIONS

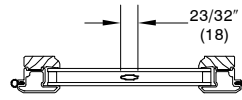
DIVIDED LITE OPTIONS



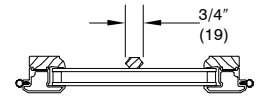
Wood Simulated Divided Lite w/Spacer Bar



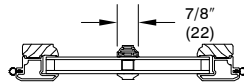
Wood Simulated Divided Lite



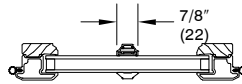
Aluminum Grille Between Glass



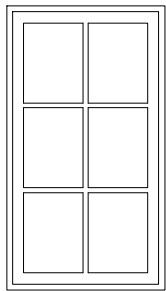
Wood Removable Grille



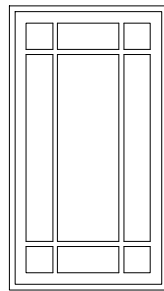
Composite Simulated Divided Lite w/Spacer Bar



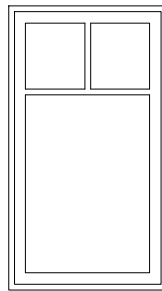
Composite Simulated Divided Lite



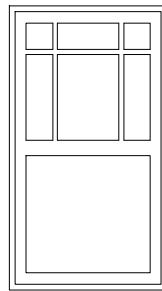
RECTANGLE SDL



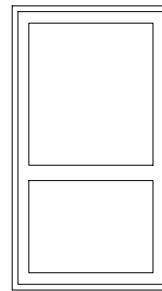
PRAIRIE GBG or SDL



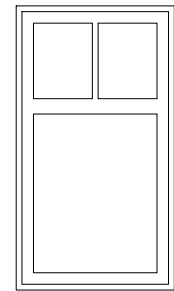
COTTAGE SDL CUT



PRAIRIE SDL WITH SIMULATED CHECK RAIL



CUSTOM SIMULATED RAIL



COTTAGE SDL WITH SIMULATED CHECK RAIL

Conversion Formula:

$$\frac{\text{Total DLO} - \text{Total bar width}}{\text{Number of lites}} = \text{Individual DLO}$$

NOTES

- Direct Glaze Round Top with Wood Grilles, GBG, or SDL will only align with the default lite cut of the unit it is intended to be muller with.
- Wood Grilles for special sizes will default to the next smaller standard size lite pattern. Wood Grilles are not available in lite patterns other than the Wood Grille patterns listed in the following pages.
- Rectangle GBGs for special size units will default to the next smaller standard size lite pattern. Also available will be Prairie pattern 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 GBGs and SDL are not available in lite patterns other than the Prairie patterns listed in the following pages.
- Cottage SDL for special sizes will default to the next smaller standard size lite pattern. Cottage SDL is not available in lite patterns other than the Cottage patterns listed in the following pages.
- 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 is 11 lites.
- Minimum DLO measurement for equal lite GBG and SDL option is 3" (76) and will be validated by OMS.
- Standard DLO measurement for Prairie GBG and SDL option is 4" (102) Special DLO corners are n/a.
- Standard DLO height measurement for Cottage SDL option is 10" (254). Special DLO heights are n/a.
- 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.
- An ICADG 7316 with wood grille will align over a 25-3W or 37-2W ICA assembly only.
- An ICATR 7316 or 7319 with wood grille will align over a 73-1W picture only.
- GBGs are not available on Impact IZ3 units.

AVAILABLE DIVIDED LITE PATTERNS

Default Rectangular Lite Pattern – Wood Grille, GBG, SDL

Standard CN Height	Standard CN Width									
	17	21	25	29	33	37	41	49	57	73
16 ICADG	--	--	--	--	--	--	--	--	--	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 Rectangular Lite Pattern – GBG or SDL only

Standard CN Height	Standard CN Width									
	17	21	25	29	33	37	41	49	57	73
16 ICADG	--	--	--	--	--	--	--	--	--	4W1H
16	--	--	--	2W1H	2W1H	2W1H	2W1H	2W1H	2W1H	2W1H
19	2W1H	2W1H	2W1H	2W1H 2W2H	2W1H 2W2H	2W1H 2W2H	2W1H 2W2H	2W1H 2W2H	2W1H 2W2H	--
23	2W2H	--	--	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	--
27	2W2H	--	--	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	--
31	2W2H	--	--	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	--
35	2W2H	--	--	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	--
39	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	--
43	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	--
47	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	--
55	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	--	--
59	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	--	--
63	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	--	--
71	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	2W2H	--	--

AVAILABLE DIVIDED LITE PATTERNS

Optional Prairie Lite Pattern – GBG, SDL

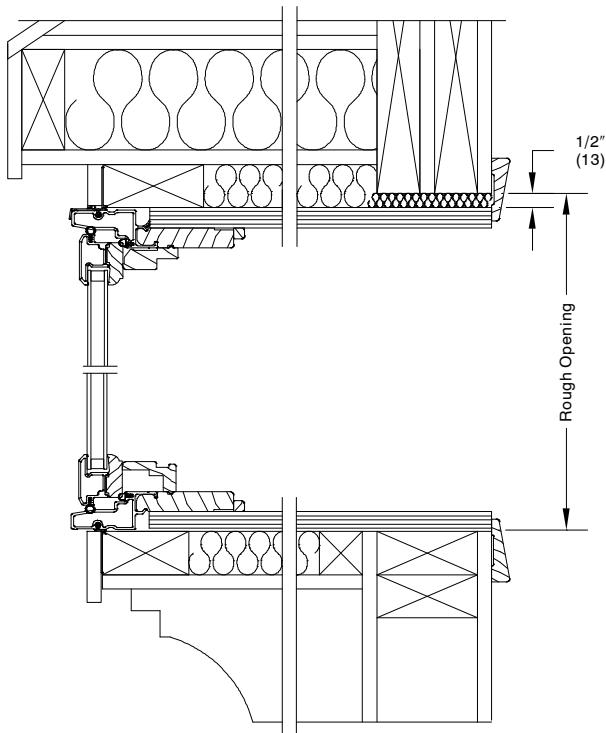
Standard CN Height	Standard CN Width									
	17	21	25	29	33	37	41	49	57	73
16 ICADG	--	--	--	--	--	--	--	--	--	6-Lite Top
16	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
19	n/a	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite
23	n/a	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite
27	n/a	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite
31	n/a	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite
35	n/a	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite
39	n/a	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite
43	n/a	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite
47	n/a	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite
55	n/a	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite
59	n/a	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite
63	n/a	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	--
71	n/a	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	9-Lite	--

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

Optional Cottage Lite Pattern – SDL only

Standard CN Height	Standard CN Width									
	17	21	25	29	33	37	41	49	57	73
16 ICADG	--	--	--	--	--	--	--	--	--	n/a
16	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
19	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
23	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
27	2-Lite	3-Lite	3-Lite	4-Lite	4-Lite	4-Lite	5-Lite	5-Lite	6-Lite	8-Lite
31	2-Lite	3-Lite	3-Lite	4-Lite	4-Lite	4-Lite	5-Lite	5-Lite	6-Lite	8-Lite
35	2-Lite	3-Lite	3-Lite	4-Lite	4-Lite	4-Lite	5-Lite	5-Lite	6-Lite	8-Lite
39	2-Lite	3-Lite	3-Lite	4-Lite	4-Lite	4-Lite	5-Lite	5-Lite	6-Lite	8-Lite
43	2-Lite	3-Lite	3-Lite	4-Lite	4-Lite	4-Lite	5-Lite	5-Lite	6-Lite	8-Lite
47	2-Lite	3-Lite	3-Lite	4-Lite	4-Lite	4-Lite	5-Lite	5-Lite	6-Lite	8-Lite
55	2-Lite	3-Lite	3-Lite	4-Lite	4-Lite	4-Lite	5-Lite	5-Lite	6-Lite	8-Lite
59	2-Lite	3-Lite	3-Lite	4-Lite	4-Lite	4-Lite	5-Lite	5-Lite	6-Lite	8-Lite
63	2-Lite	3-Lite	3-Lite	4-Lite	4-Lite	4-Lite	5-Lite	5-Lite	6-Lite	--
71	2-Lite	3-Lite	3-Lite	4-Lite	4-Lite	4-Lite	5-Lite	5-Lite	6-Lite	--

BOW/BAY UNITS



Casement Bay / Bow Height Dimensions				
Unit #	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)

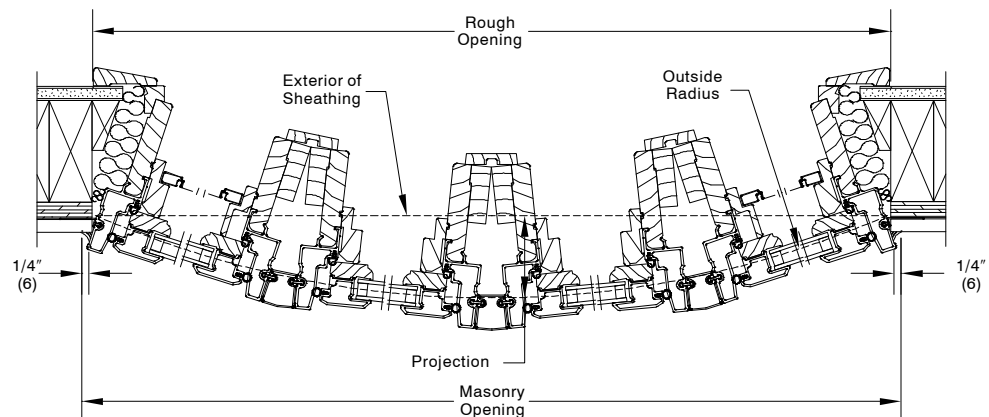
Structural support members supplied by others.

BAY / BOW
Scale: 3/4" = 1'-0"

NOTE: Impact glazed units are not available in Bow/Bay configuration.

NOTE: CE mark is not available in Casement Bow/Bay configuration.

4 and 5 Wide Casement Bow Widths						
Unit #	MO Width		RO Width		Projection	
	ft-in	mm	ft-in	mm	ft-in	mm
17 - 4W	5-6 3/8	(1686)	5-6 17/64	(1683)	0-6 7/8	(175)
21 - 4W	6-9 15/16	(2081)	6-9 53/64	(2078)	0-8 17/32	(217)
25 - 4W	8-1 1/2	(2477)	8-1 25/64	(2474)	0-10 3/16	(259)
29 - 4W	9-5 1/16	(2872)	9-4 61/64	(2869)	0-11 27/32	(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 23/32	(323)
25 - 5W	10-0 5/64	(3050)	9-11 49/64	(3042)	1-3 11/64	(385)



4 WIDE BOW - JAMB
Scale: 1 1/2" = 1'-0"

30 Degree Casement Bay - Width Dimensions								
Unit #	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 59/64	(1268)	4-1 13/32	(1255)	3-7 27/32	(1114)	0-8 5/8	(219)
17-21-17	4-5 59/64	(1370)	4-5 13/32	(1356)	3-11 27/32	(1215)	0-8 5/8	(219)
17-25-17	4-9 59/64	(1471)	4-9 13/32	(1458)	4-3 27/32	(1317)	0-8 5/8	(219)
17-29-17	5-1 59/64	(1573)	5-1 13/32	(1560)	4-7 27/32	(1418)	0-8 5/8	(219)
17-33-17	5-5 59/64	(1674)	5-5 13/32	(1661)	4-11 27/32	(1520)	0-8 5/8	(219)
17-37-17	5-9 59/64	(1776)	5-9 13/32	(1763)	5-3 27/32	(1622)	0-8 5/8	(219)
17-41-17	6-1 59/64	(1878)	6-1 13/32	(1864)	5-7 27/32	(1723)	0-8 5/8	(219)
17-49-17	6-9 59/64	(2081)	6-9 13/32	(2068)	6-3 27/32	(1926)	0-8 5/8	(219)
21 Wide Units								
21-17-21	4-8 27/32	(1444)	4-8 21/64	(1431)	4-2 49/64	(1289)	0-10 5/8	(270)
21-21-21	5-0 27/32	(1546)	5-0 21/64	(1532)	4-6 49/64	(1391)	0-10 5/8	(270)
21-25-21	5-4 27/32	(1647)	5-4 21/64	(1634)	4-10 49/64	(1493)	0-10 5/8	(270)
21-29-21	5-8 27/32	(1749)	5-8 21/64	(1736)	5-2 49/64	(1594)	0-10 5/8	(270)
21-33-21	6-0 27/32	(1850)	6-0 21/64	(1837)	5-6 49/64	(1696)	0-10 5/8	(270)
21-37-21	6-4 27/32	(1952)	6-4 21/64	(1939)	5-10 49/64	(1797)	0-10 5/8	(270)
21-41-21	6-8 27/32	(2054)	6-8 21/64	(2040)	6-2 49/64	(1899)	0-10 5/8	(270)
21-49-21	7-4 27/32	(2257)	7-4 21/64	(2244)	6-10 49/64	(2102)	0-10 5/8	(270)
21-57-21	8-0 27/32	(2460)	8-0 21/64	(2447)	7-6 49/64	(2305)	0-10 5/8	(270)
21-73-21	9-4 27/32	(2866)	9-4 21/64	(2853)	6-10 49/64	(2102)	0-10 5/8	(270)
25 Wide Units								
25-17-25	5-3 25/32	(1620)	5-3 1/4	(1607)	4-9 11/16	(1465)	1-0 5/8	(321)
25-21-25	5-7 25/32	(1721)	5-7 1/4	(1708)	5-1 11/16	(1567)	1-0 5/8	(321)
25-25-25	5-11 25/32	(1823)	5-11 1/4	(1810)	5-5 11/16	(1669)	1-0 5/8	(321)
25-29-25	6-3 25/32	(1925)	6-3 1/4	(1912)	5-9 11/16	(1770)	1-0 5/8	(321)
25-33-25	6-7 25/32	(2026)	6-7 1/4	(2013)	6-1 11/16	(1872)	1-0 5/8	(321)
25-37-25	6-11 25/32	(2128)	6-11 1/4	(2115)	6-5 11/16	(1973)	1-0 5/8	(321)
25-41-25	7-3 25/32	(2229)	7-3 1/4	(2216)	6-9 11/16	(2075)	1-0 5/8	(321)
25-49-25	7-11 25/32	(2433)	7-11 1/4	(2420)	7-5 11/16	(2278)	1-0 5/8	(321)
25-57-25	8-7 25/32	(2636)	8-7 1/4	(2623)	8-1 11/16	(2481)	1-0 5/8	(321)

NOTE: Factory assembled. Bay/Bow units include head and seat boards.

NOTE: 30 Bay mull kits available for field assembly

NOTE: Structural support member and interior trim supplied by others

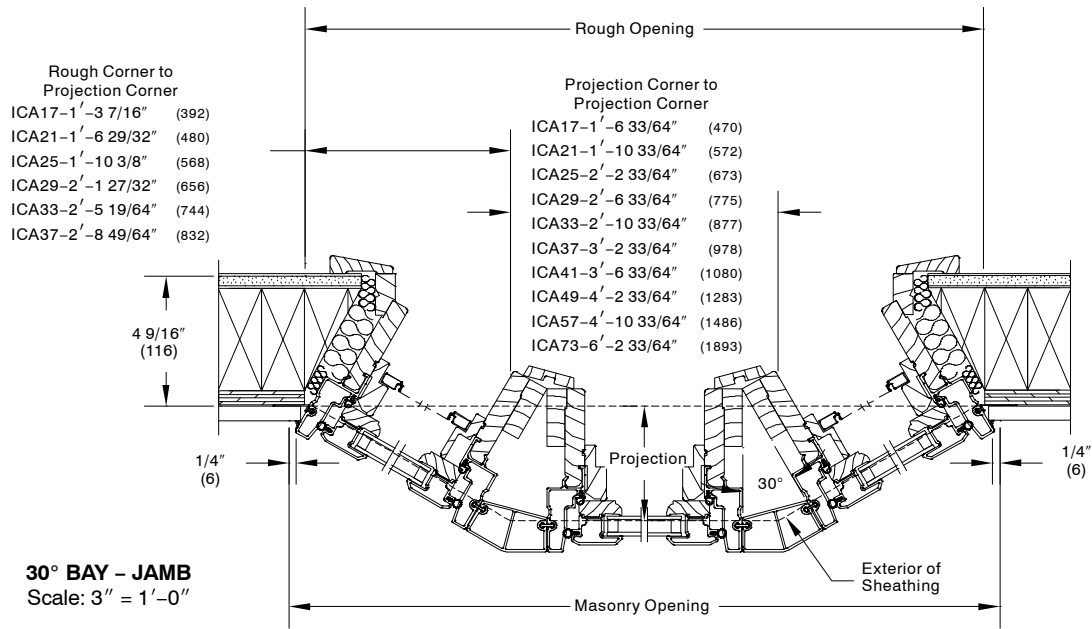
30 Degree Casement Bay – Width Dimensions								
Unit #	MO Width		RO Width		Jamb to Jamb		Projection	
	ft-in	mm	ft-in	mm	ft-in	mm	ft-in	mm
29 Wide Units								
29-17-29	5-10 45/64	(1796)	5-10 3/16	(1783)	5-4 5/8	(1641)	1-2 5/8	(372)
29-21-29	6-2 45/64	(1897)	6-2 3/16	(1884)	5-8 5/8	(1743)	1-2 5/8	(372)
29-25-29	6-6 45/64	(1999)	6-6 3/16	(1986)	6-0 5/8	(1845)	1-2 5/8	(372)
29-29-29	6-10 45/64	(2101)	6-10 3/16	(2087)	6-4 5/8	(1946)	1-2 5/8	(372)
29-33-29	7-2 45/64	(2202)	7-2 3/16	(2189)	6-8 5/8	(2048)	1-2 5/8	(372)
29-37-29	7-6 45/64	(2304)	7-6 3/16	(2291)	7-0 5/8	(2149)	1-2 5/8	(372)
29-41-29	7-10 45/64	(2405)	7-10 3/16	(2392)	7-4 5/8	(2251)	1-2 5/8	(372)
29-49-29	8-6 45/64	(2609)	8-6 3/16	(2595)	8-0 5/8	(2454)	1-2 5/8	(372)
29-57-29	9-2 45/64	(2812)	9-2 3/16	(2799)	8-8 5/8	(2657)	1-2 5/8	(372)
33 Wide Units								
33-17-33	6-5 5/8	(1972)	6-5 7/64	(1959)	5-11 35/64	(1817)	1-4 5/8	(422)
33-21-33	6-9 5/8	(2073)	6-9 7/64	(2060)	6-3 35/64	(1919)	1-4 5/8	(422)
33-25-33	7-1 5/8	(2175)	7-1 7/64	(2162)	6-7 35/64	(2021)	1-4 5/8	(422)
33-29-33	7-5 5/8	(2277)	7-5 7/64	(2263)	6-11 35/64	(2122)	1-4 5/8	(422)
33-33-33	7-9 5/8	(2378)	7-9 7/64	(2365)	7-3 35/64	(2224)	1-4 5/8	(422)
33-37-33	8-1 5/8	(2480)	8-1 7/64	(2467)	7-7 35/64	(2325)	1-4 5/8	(422)
33-41-33	8-5 5/8	(2581)	8-5 7/64	(2568)	7-11 35/64	(2427)	1-4 5/8	(422)
33-49-33	9-1 5/8	(2785)	9-1 7/64	(2771)	8-7 35/64	(2630)	1-4 5/8	(422)
37 Wide Units								
37-17-37	7-0 9/16	(2148)	7-0 3/64	(2135)	6-6 31/64	(1993)	1-6 5/8	(473)
37-21-37	7-4 9/16	(2249)	7-4 3/64	(2236)	6-10 31/64	(2095)	1-6 5/8	(473)
37-25-37	7-8 9/16	(2351)	7-8 3/64	(2338)	7-2 31/64	(2197)	1-6 5/8	(473)
37-29-37	8-0 9/16	(2453)	8-0 3/64	(2439)	7-6 31/64	(2298)	1-6 5/8	(473)
37-33-37	8-4 9/16	(2554)	8-4 3/64	(2541)	7-10 31/64	(2400)	1-6 5/8	(473)
37-37-37	8-8 9/16	(2656)	8-8 3/64	(2643)	8-2 31/64	(2501)	1-6 5/8	(473)

NOTE: Factory assembled. Bay/Bow units include head and seat boards.

NOTE: 30 Bay mull kits available for field assembly

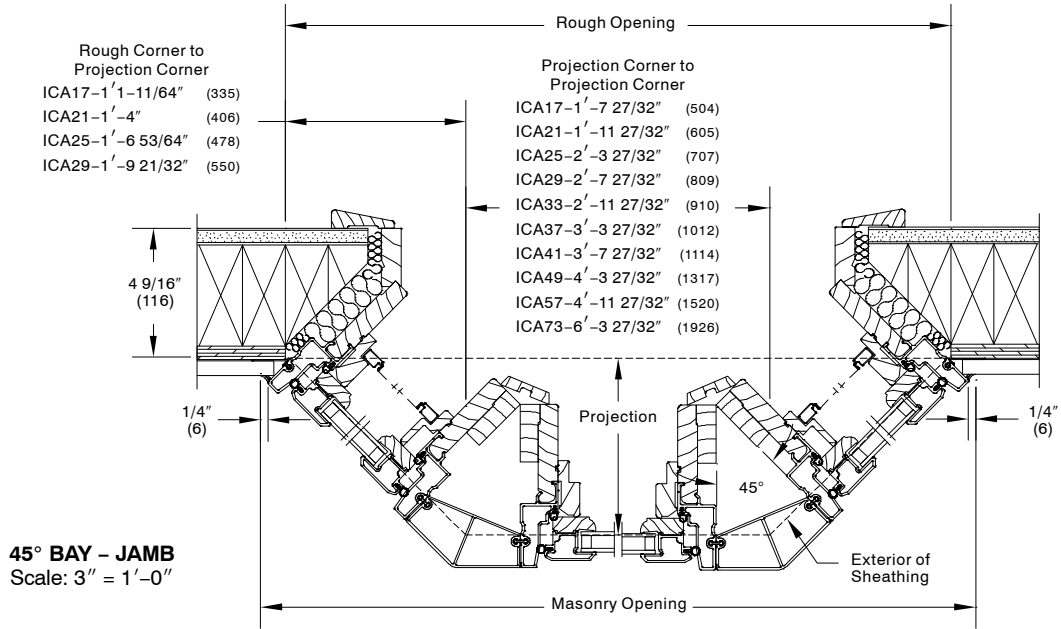
NOTE: Structural support member and interior trim supplied by others

30° BAY UNITS

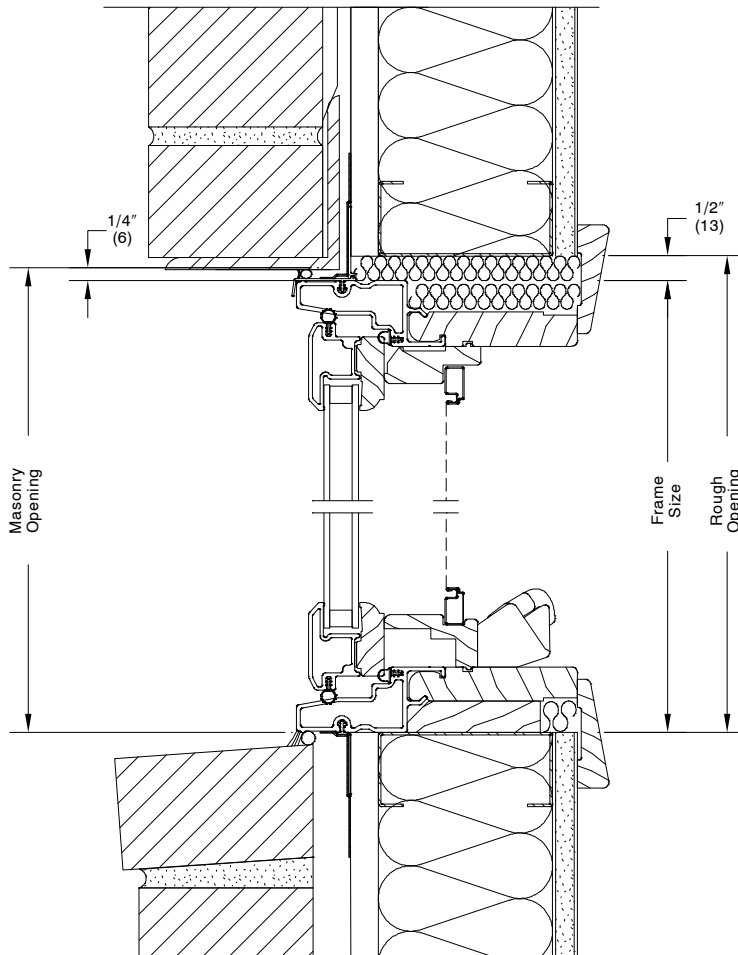


45 Degree Casement Bay – Width Dimensions								
Unit #	MO Width		RO Width		Jamb to Jamb		Projection	
	ft-in	mm	ft-in	mm	ft-in	mm	ft-in	mm
17 Wide Units								
17-17-17	3-11 5/32	(1198)	3-10 3/16	(1173)	3-2 47/64	(984)	1-0 43/64	(322)
17-21-17	4-3 5/32	(1299)	4-2 3/16	(1275)	3-6 47/64	(1085)	1-0 43/64	(322)
17-25-17	4-7 5/32	(1401)	4-6 3/16	(1376)	3-10 47/64	(1187)	1-0 43/64	(322)
17-29-17	4-11 5/32	(1503)	4-10 3/16	(1478)	4-2 47/64	(1289)	1-0 43/64	(322)
17-33-17	5-3 5/32	(1604)	5-2 3/16	(1579)	4-6 47/64	(1390)	1-0 43/64	(322)
17-37-17	5-7 5/32	(1706)	5-6 3/16	(1681)	4-10 47/64	(1492)	1-0 43/64	(322)
17-41-17	5-11 5/32	(1807)	5-10 3/16	(1783)	5-2 47/64	(1593)	1-0 43/64	(322)
17-49-17	6-7 5/32	(2011)	6-6 3/16	(1986)	5-10 47/64	(1797)	1-0 43/64	(322)
21 Wide Units								
21-17-21	4-4 13/16	(1341)	4-3 27/32	(1317)	3-8 25/64	(1128)	1-3 1/2	(394)
21-21-21	4-8 13/16	(1443)	4-7 27/32	(1418)	4-0 25/64	(1229)	1-3 1/2	(394)
21-25-21	5-0 13/16	(1545)	4-11 27/32	(1520)	4-4 25/64	(1331)	1-3 1/2	(394)
21-29-21	5-4 13/16	(1646)	5-3 27/32	(1622)	4-8 25/64	(1432)	1-3 1/2	(394)
21-33-21	5-8 13/16	(1748)	5-7 27/32	(1723)	5-0 25/64	(1534)	1-3 1/2	(394)
21-37-21	6-0 13/16	(1849)	5-11 27/32	(1825)	5-4 25/64	(1636)	1-3 1/2	(394)
21-41-21	6-4 13/16	(1951)	6-3 27/32	(1926)	5-8 25/64	(1737)	1-3 1/2	(394)
21-49-21	7-0 13/16	(2154)	6-11 27/32	(2130)	6-4 25/64	(1940)	1-3 1/2	(394)
21-57-21	7-8 13/16	(2357)	7-7 27/32	(2333)	7-0 25/64	(2144)	1-3 1/2	(394)
21-73-21	9-0 13/16	(2764)	8-11 27/32	(2739)	8-4 25/64	(2550)	1-3 1/2	(394)
25 Wide Units								
25-17-25	4-10 15/32	(1485)	4-9 1/2	(1460)	4-2 3/64	(1271)	1-6 21/64	(466)
25-21-25	5-2 15/32	(1587)	5-1 1/2	(1562)	4-6 3/64	(1373)	1-6 21/64	(466)
25-25-25	5-6 15/32	(1688)	5-5 1/2	(1664)	4-10 3/64	(1474)	1-6 21/64	(466)
25-29-25	5-10 15/32	(1790)	5-9 1/2	(1765)	5-2 3/64	(1576)	1-6 21/64	(466)
25-33-25	6-2 15/32	(1892)	6-1 1/2	(1867)	5-6 3/64	(1678)	1-6 21/64	(466)
25-37-25	6-6 15/32	(1993)	6-5 1/2	(1968)	5-10 3/64	(1779)	1-6 21/64	(466)
25-41-25	6-10 15/32	(2095)	6-9 1/2	(2070)	6-2 3/64	(1881)	1-6 21/64	(466)
25-49-25	7-6 15/32	(2298)	7-5 1/2	(2273)	6-10 3/64	(2084)	1-6 21/64	(466)
25-57-25	8-2 15/32	(2501)	8-1 1/2	(2476)	7-6 3/64	(2287)	1-6 21/64	(466)
25-73-25	9-6 15/32	(2908)	9-5 1/2	(2883)	8-10 3/64	(2694)	1-6 21/64	(466)
29 Wide Units								
29-17-29	5-4 1/8	(1629)	5-3 5/32	(1604)	4-7 45/64	(1415)	1-9 5/32	(537)
29-21-29	5-8 1/8	(1730)	5-7 5/32	(1706)	4-11 45/64	(1516)	1-9 5/32	(537)
29-25-29	6-0 1/8	(1832)	5-11 5/32	(1807)	5-3 45/64	(1618)	1-9 5/32	(537)
29-29-29	6-4 1/8	(1934)	6-3 5/32	(1909)	5-7 45/64	(1720)	1-9 5/32	(537)
29-33-29	6-8 1/8	(2035)	6-7 5/32	(2011)	5-11 45/64	(1821)	1-9 5/32	(537)
29-37-29	7-0 1/8	(2137)	6-11 5/32	(2112)	6-3 45/64	(1923)	1-9 5/32	(537)
29-41-29	7-4 1/8	(2238)	7-3 5/32	(2214)	6-7 45/64	(2024)	1-9 5/32	(537)
29-49-29	8-0 1/8	(2442)	7-11 5/32	(2417)	7-3 45/64	(2228)	1-9 5/32	(537)
29-57-29	8-8 1/8	(2645)	8-7 5/32	(2620)	7-11 45/64	(2431)	1-9 5/32	(537)

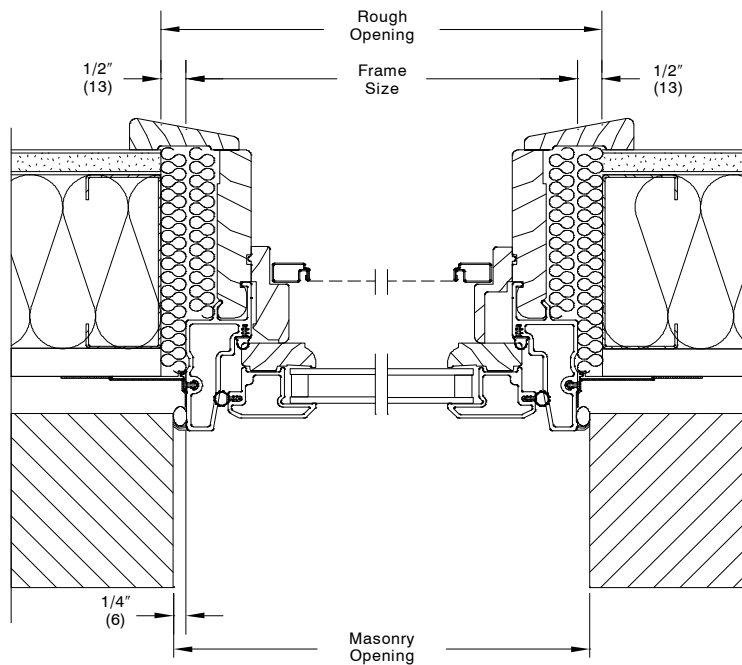
45° BAY UNITS



**HEAD
JAMB**



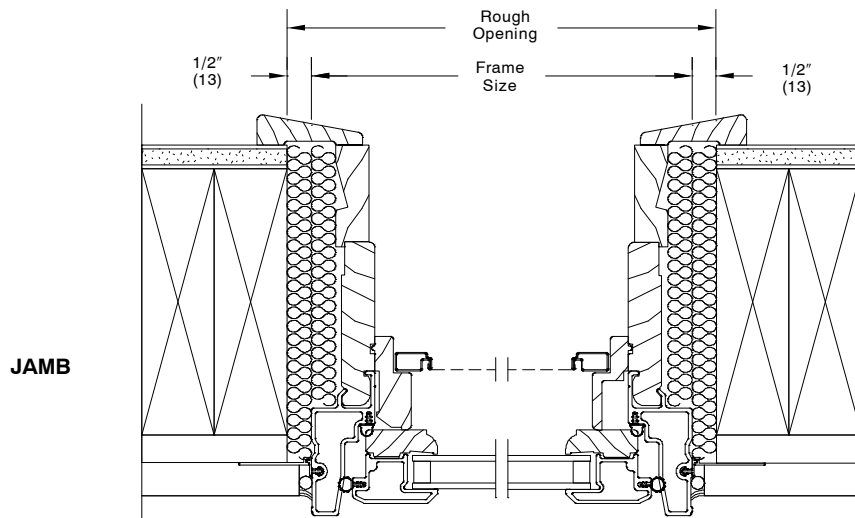
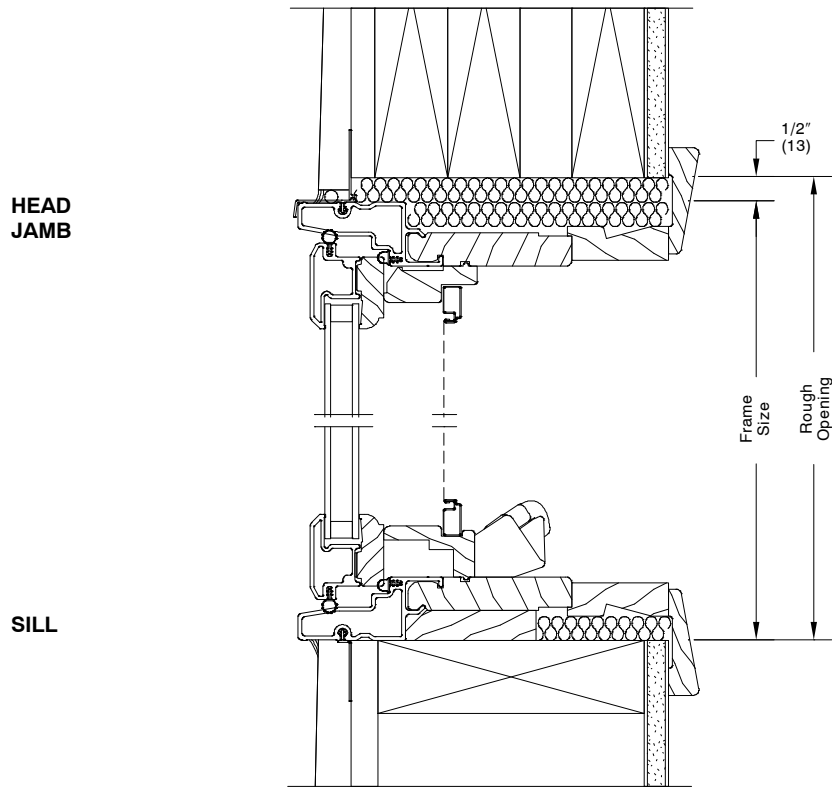
JAMB



BRICK VENEER WITH STEEL FRAME CONSTRUCTION

NOTE: Picture unit Installation similar.

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.



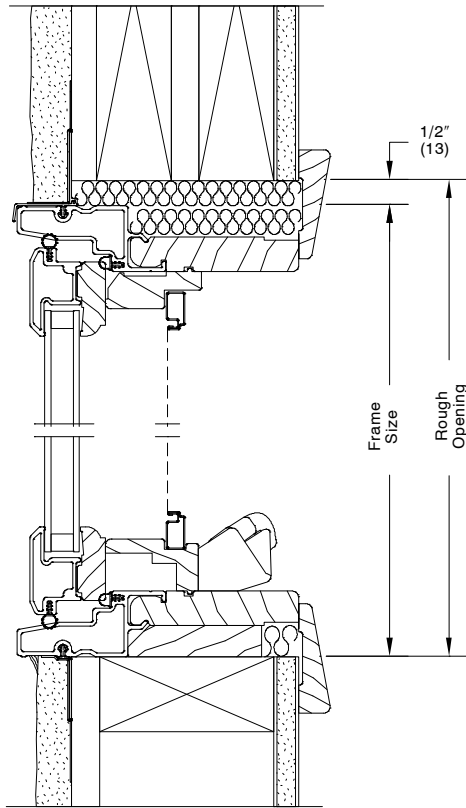
WOOD SIDING WITH 2X6 FRAME CONSTRUCTION

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.

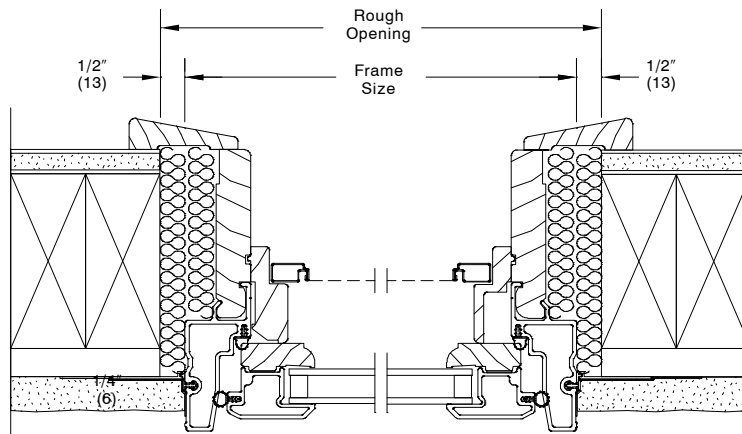
NOTE: Picture unit Installation similar.
Picture units may require both nailing fin and installation brackets.

HEAD
JAMB

SILL



JAMB



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.

NOTE: Picture unit Installation similar.
Picture units may require both nailing fin and installation brackets.