

# Ultimate Casement and Ultimate Casement Push Out Bow and Bay

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**Unit Features**

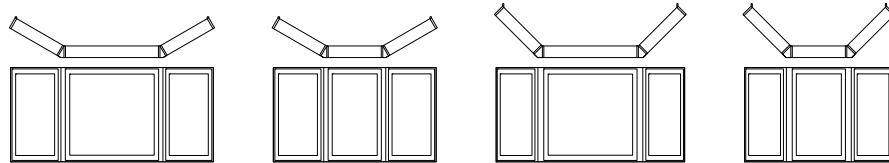
**Ultimate Casement / Awning Bow and Bay - UCABB / UAWN BB**

**Ultimate Push Out Casement / Awning Bow and Bay - UCAPO BB / UAWNPO BB**

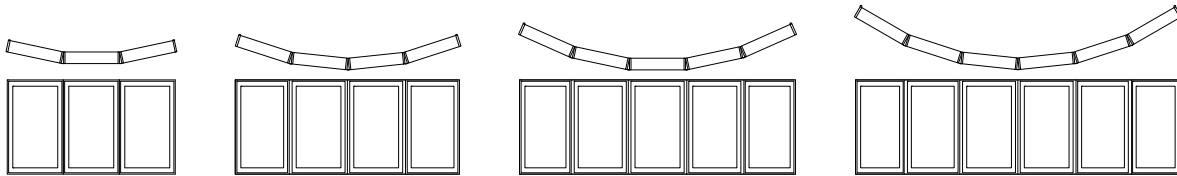
- 6 degree angle on Bows
- Laminated Pine wood or optional Douglas fir head and seat boards installed
- Installation brackets are available in lieu of nailing fin
- Optional retro fit bay square jamb return for UCA BB and UCAPO BB

Information concerning Daylight Opening, Egress Opening, and Vent Opening will be determined based on the individual components of the Bow or Bay

**Bay standard operation as viewed from exterior.**



**Bow standard operation as viewed from exterior.**



*NOTE: Also see Ultimate Casement Collection for more unit features.*

*Use of clad casing will change the Rough Opening and Projection. Contract your Marvin representative for further information.*

**Lock Status Sensor (Optional):**

- Available for UCABB. Not available on Push Out Bow and Bay.
- Refer to **Lock Status Sensor Installation Instructions** for requirements.
- Lock Status Sensor provides locked and unlocked security detection. It allows easy integration with home automation systems using a wired or wireless connection.
  - For wired option, check with local codes on potential contractor requirements for low voltage networking connections.
  - Wireless option available. Requires purchase of secondary transmitter for operation. Marvin will prep for this option.
- Wireless Lock Status Sensor is located within the frame.
- Sensor Location
  - Will always be on locking side
- For Wired or Wireless, Black or White Magnet Covers available, visible on secondary surface. Cover color dependent upon interior finish.
  - White: Prime and White Painted Interior Finish
  - Black: Bare and all other finish options

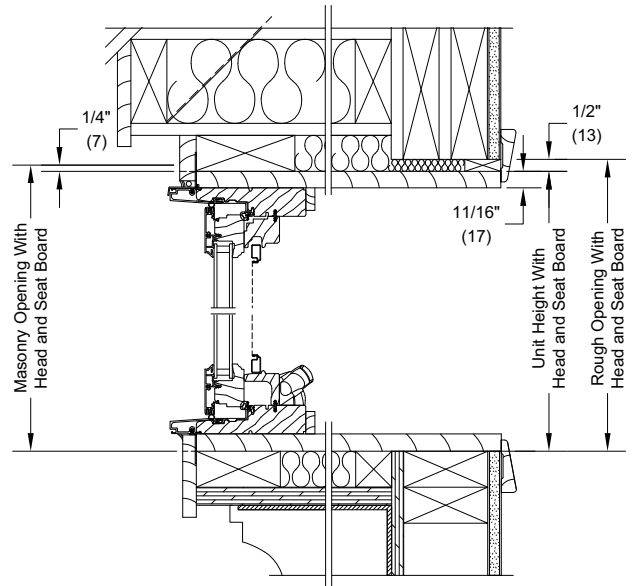
**Min and Max Sizing, Projection and Standard Heights for Bows and Bays**

Configuration	Minimum and Maximum Rough Opening Guidelines							
	Min Width		Min Height		Max Width		Max Height	
	in	mm	in	mm	in	mm	in	mm
Bow - 3 Wide	49 9/16	(1259)	25	(635)	108 11/16	(2761)	73	(1854)
Bow - 4 Wide	65 7/16	(1662)	25	(635)	143 9/32	(3639)	73	(1854)
Bow - 5 Wide	80 5/8	(2048)	25	(635)	157 5/32	(3992)	73	(1854)
Bow - 6 Wide	94 29/32	(2411)	25	(635)	162 3/8	(4124)	73	(1854)
Bay - 30°	48 21/32	(1236)	25	(635)	139 5/16	(3539)	73	(1854)
Bay - 45°	45 11/32	(1152)	25	(635)	129 5/8	(3292)	73	(1854)
Bay - 90°	17 5/8	(448)	25	(635)	73 5/8	(1870)	73	(1854)

Configuration	Projection Depth			
	Minimum		Maximum	
	in	mm	in	mm
Bow - 3 Wide	3 13/32	(87)	7 9/16	(192)
Bow - 4 Wide	6 7/8	(175)	15 1/8	(384)
Bow - 5 Wide	10 1/4	(260)	20 1/16	(510)
Bow - 6 Wide	15 1/4	(387)	26 7/32	(666)
Bay - 30°	8 5/8	(219)	18 5/8	(473)
Bay - 45°	12 21/32	(321)	26 13/16	(681)
Bay - 90°	22 1/16	(560)	42 1/16	(1068)

**Standard Heights for Bows and Bays**

Call Number Height	RO Height (w/ head & seat boards)		Frame Size Height (w/ head & seat boards)	
	ft-in	mm	ft-in	mm
24	2-1	(635)	2-0 1/2	(622)
26	2-3	(686)	2-2 1/2	(673)
28	2-5	(737)	2-4 1/2	(724)
32	2-9	(838)	2-8 1/2	(826)
36	3-1	(940)	3-0 1/2	(927)
40	3-5	(1041)	3-4 1/2	(1029)
44	3-9	(1143)	3-8 1/2	(1130)
48	4-1	(1245)	4-0 1/2	(1232)
54	4-7	(1397)	4-6 1/2	(1384)
56	4-9	(1448)	4-8 1/2	(1435)
60	5-1	(1549)	5-0 1/2	(1537)
64	5-5	(1651)	5-4 1/2	(1638)
72	6-1	(1854)	6-0 1/2	(1842)



*NOTE: Use of clad casing will change the Rough Opening and Projection. Contact your Marvin representative for further information.*

**Measurement Conversions: UCABB and UCAPOBB**

Clad Measurement Conversions					
Unit Measurements		Width		Height	
From	To				
<b>Rough Opening - 30° Bay</b>		<b>in</b>	<b>mm</b>	<b>in</b>	<b>mm</b>
Masonry Opening with BMC	Rough Opening (w/ head and seat boards)	-3 25/32	(96)	-1/4	(06)
Masonry Opening w/out BMC	Rough Opening (w/ head and seat boards)	-1 7/32	(31)	+ 3/8	(10)
<b>Rough Opening - 45° Bay</b>		<b>in</b>	<b>mm</b>	<b>in</b>	<b>mm</b>
Masonry Opening with BMC	Rough Opening (w/ head and seat boards)	-4 31/32	(126)	-1/4	(06)
Masonry Opening w/out BMC	Rough Opening (w/ head and seat boards)	-1 13/16	(46)	+ 3/8	(10)
<b>Rough Opening - 90° Bay</b>		<b>in</b>	<b>mm</b>	<b>in</b>	<b>mm</b>
Masonry Opening with BMC	Rough Opening (w/ head and seat boards)	-10 3/16	(259)	-1/4	(06)
Masonry Opening w/out BMC	Rough Opening (w/ head and seat boards)	-10 3/16	(259)	+ 3/8	(10)
<b>Rough Opening - 3W Bow</b>		<b>in</b>	<b>mm</b>	<b>in</b>	<b>mm</b>
Masonry Opening with BMC	Rough Opening (w/ head and seat boards)	-2 23/32	(69)	-1/4	(06)
Masonry Opening w/out BMC	Rough Opening (w/ head and seat boards)	-19/32	(15)	+ 1/4	(06)
<b>Rough Opening - 4W Bow</b>		<b>in</b>	<b>mm</b>	<b>in</b>	<b>mm</b>
Masonry Opening with BMC	Rough Opening (w/ head and seat boards)	-3 1/32	(77)	-1/4	(06)
Masonry Opening w/out BMC	Rough Opening (w/ head and seat boards)	-13/16	(21)	+ 1/4	(06)
<b>Rough Opening - 5W Bow</b>		<b>in</b>	<b>mm</b>	<b>in</b>	<b>mm</b>
Masonry Opening with BMC	Rough Opening (w/ head and seat boards)	-3 13/32	(87)	-1/4	(06)
Masonry Opening w/out BMC	Rough Opening (w/ head and seat boards)	-1	(25)	+ 1/4	(06)
<b>Rough Opening - 6W Bow</b>		<b>in</b>	<b>mm</b>	<b>in</b>	<b>mm</b>
Masonry Opening with BMC	Rough Opening (w/ head and seat boards)	-3 25/32	(96)	-1/4	(06)
Masonry Opening w/out BMC	Rough Opening (w/ head and seat boards)	-1 7/32	(31)	+ 1/4	(06)

*NOTE: If no head board, Deduct 11/16" (17) from Rough Opening Height  
 If no seat board, Deduct 11/16" (17) from Rough Opening Height  
 Clad BMC or Flat Casing will change Rough Opening and Projection. Contact your Marvin representative.*

**Bow Rough Opening and Projection - 3 Wide, 4 Wide, 5 Wide, 6 Wide**

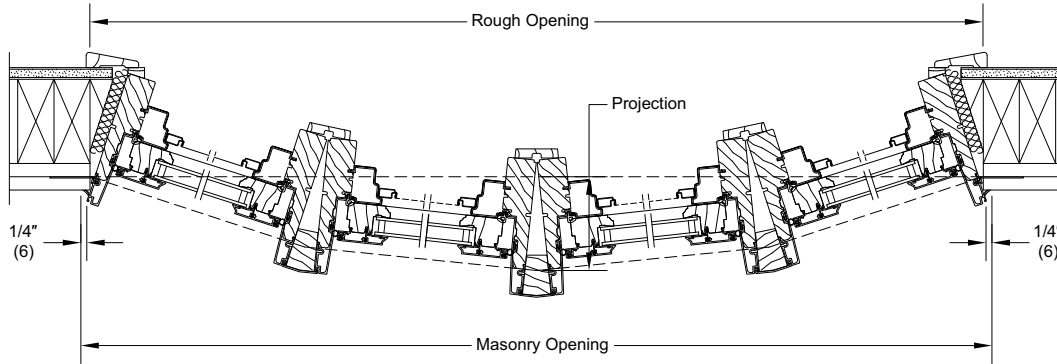
Call Number (Width)	Number Wide	Bow			
		RO		Projection	
16	3	4-1 37/64	(1259)	0-3 27/64	(87)
16	4	5-5 29/64	(1663)	0-6 55/64	(174)
16	5	6-8 5/8	(2048)	0-10 15/64	(260)
16	6	7-10 29/32	(2411)	1-3 1/4	(387)
18	3	4-7 31/64	(1409)	0-3 27/32	(98)
18	4	6-1 15/64	(1860)	0-7 11/16	(195)
18	5	7-6 3/16	(2291)	0-11 29/64	(291)
18	6	8-10 5/32	(2696)	1-5 5/64	(434)
20	3	5-1 25/64	(1560)	0-4 17/64	(108)
20	4	6-9 1/64	(2058)	0-8 33/64	(216)
20	5	8-3 3/4	(2534)	1-0 11/16	(322)
20	6	9-9 13/32	(2982)	1-6 29/32	(480)
24	3	6-1 7/32	(1860)	0-5 3/32	(129)
24	4	8-0 37/64	(2453)	0-10 11/64	(258)
24	5	9-10 57/64	(3020)	1-3 9/64	(385)
24	6	11-7 57/64	(3553)	1-10 9/16	(573)
26	3	6-7 9/64	(2010)	0-5 1/2	(140)
26	4	8-8 23/64	(2651)	0-11	(279)
26	5	10-8 29/64	(3263)	1-4 3/8	(416)
26	6	12-7 9/64	(3839)	2-0 25/64	(619)
28	3	7-1 3/64	(2160)	0-5 59/64	(150)
28	4	9-4 9/64	(2849)	0-11 53/64	(300)
28	5	11-6 1/64	(3506)	1-5 39/64	(447)
28	6	13-6 25/64	(4125)	2-2 7/32	(666)
30	3	7-6 31/32	(2310)	0-6 11/32	(161)
30	4	9-11 59/64	(3046)	1-0 21/32	(321)
30	5	12-3 19/32	(3749)	1-6 53/64	(478)
32	3	8-0 7/8	(2461)	0-6 3/4	(172)
32	4	10-7 23/32	(3244)	1-1 31/64	(342)
32	5	13-1 5/32	(3992)	1-8 1/16	(510)
36	3	9-0 45/64	(2761)	0-7 37/64	(193)
36	4	11-11 9/32	(3639)	1-3 9/64	(384)

NOTE: Clad BMC or Flat Casing will change Rough Opening and Projection. Contact your Marvin representative.

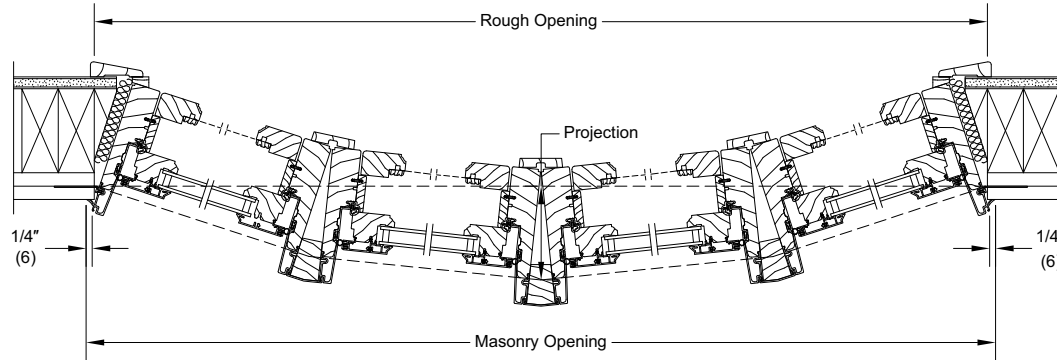
**Section Details: Bow**

Scale: Not to Scale

**Casement - Bow**



**Push Out Casement - Bow**



*NOTE: Use of clad casing will change the Rough Opening and Projection. Contact your Marvin representative for further information.*



## Standard Width Call Number: UCABB and UCAPOBB-30° Bay

Call Number (Width)			30° Bay			
Side	Center	Side	RO		Projection	
16	16	16	4-0 21/32	(1236)	0-8 39/64	(219)
16	18	16	4-2 21/32	(1287)	0-8 39/64	(219)
16	20	16	4-4 21/32	(1337)	0-8 39/64	(219)
16	24	16	4-8 21/32	(1439)	0-8 39/64	(219)
16	26	16	4-10 21/32	(1490)	0-8 39/64	(219)
16	28	16	5-0 21/32	(1541)	0-8 39/64	(219)
16	30	16	5-2 21/32	(1591)	0-8 39/64	(219)
16	32	16	5-4 21/32	(1642)	0-8 39/64	(219)
16	36	16	5-8 21/32	(1744)	0-8 39/64	(219)
16	40	16	6-0 21/32	(1845)	0-8 39/64	(219)
16	48	16	6-8 21/32	(2049)	0-8 39/64	(219)
16	56	16	7-4 21/32	(2252)	0-8 39/64	(219)
16	60	16	7-8 21/32	(2353)	0-8 39/64	(219)
16	64	16	8-0 21/32	(2455)	0-8 39/64	(219)
16	72	16	8-8 21/32	(2658)	0-8 39/64	(219)
18	18	18	4-6 7/64	(1375)	0-9 39/64	(244)
18	20	18	4-8 7/64	(1425)	0-9 39/64	(244)
18	24	18	5-0 7/64	(1527)	0-9 39/64	(244)
18	26	18	5-2 7/64	(1578)	0-9 39/64	(244)
18	28	18	5-4 7/64	(1629)	0-9 39/64	(244)
18	30	18	5-6 7/64	(1679)	0-9 39/64	(244)
18	32	18	5-8 7/64	(1730)	0-9 39/64	(244)
18	36	18	6-0 7/64	(1832)	0-9 39/64	(244)
18	40	18	6-4 7/64	(1933)	0-9 39/64	(244)
18	48	18	7-0 7/64	(2137)	0-9 39/64	(244)
18	56	18	7-8 7/64	(2340)	0-9 39/64	(244)
18	60	18	8-0 7/64	(2441)	0-9 39/64	(244)
18	64	18	8-4 7/64	(2543)	0-9 39/64	(244)
18	72	18	9-0 7/64	(2746)	0-9 39/64	(244)
20	20	20	4-11 37/64	(1513)	0-10 39/64	(270)
20	24	20	5-3 37/64	(1615)	0-10 39/64	(270)
20	26	20	5-5 37/64	(1666)	0-10 39/64	(270)
20	28	20	5-7 37/64	(1716)	0-10 39/64	(270)
20	30	20	5-9 37/64	(1767)	0-10 39/64	(270)
20	32	20	5-11 37/64	(1818)	0-10 39/64	(270)
20	36	20	6-3 37/64	(1920)	0-10 39/64	(270)
20	40	20	6-7 37/64	(2021)	0-10 39/64	(270)
20	48	20	7-3 37/64	(2224)	0-10 39/64	(270)
20	56	20	7-11 37/64	(2428)	0-10 39/64	(270)
20	60	20	8-3 37/64	(2529)	0-10 39/64	(270)
20	64	20	8-7 37/64	(2631)	0-10 39/64	(270)
20	72	20	9-3 37/64	(2834)	0-10 39/64	(270)
24	24	24	5-10 1/2	(1791)	1-0 39/64	(320)
24	26	24	6-0 1/2	(1842)	1-0 39/64	(320)
24	28	24	6-2 1/2	(1892)	1-0 39/64	(320)
24	30	24	6-4 1/2	(1943)	1-0 39/64	(320)
24	32	24	6-6 1/2	(1994)	1-0 39/64	(320)
24	36	24	6-10 1/2	(2096)	1-0 39/64	(320)
24	40	24	7-2 1/2	(2197)	1-0 39/64	(320)
24	48	24	7-10 1/2	(2400)	1-0 39/64	(320)
24	56	24	8-6 1/2	(2604)	1-0 39/64	(320)
24	60	24	8-10 1/2	(2705)	1-0 39/64	(320)
24	64	24	9-2 1/2	(2807)	1-0 39/64	(320)
24	72	24	9-10 1/2	(3010)	1-0 39/64	(320)

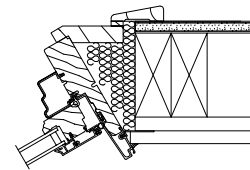
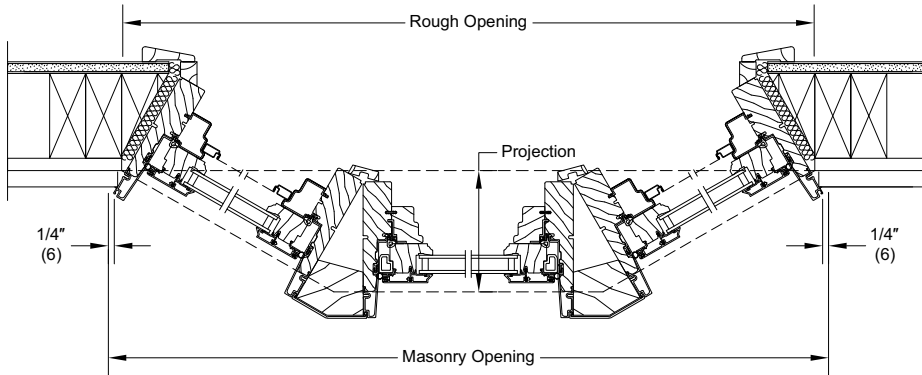
Call Number (Width)			30° Bay			
Side	Center	Side	RO		Projection	
26	26	26	6-3 31/32	(1930)	1-1 39/64	(346)
26	28	26	6-5 31/32	(1980)	1-1 39/64	(346)
26	30	26	6-7 31/32	(2031)	1-1 39/64	(346)
26	32	26	6-9 31/32	(2082)	1-1 39/64	(346)
26	36	26	7-1 31/32	(2184)	1-1 39/64	(346)
26	40	26	7-5 31/32	(2285)	1-1 39/64	(346)
26	48	26	8-1 31/32	(2488)	1-1 39/64	(346)
26	56	26	8-9 31/32	(2692)	1-1 39/64	(346)
26	60	26	9-1 31/32	(2793)	1-1 39/64	(346)
26	64	26	9-5 31/32	(2895)	1-1 39/64	(346)
26	72	26	10-1 31/32	(3098)	1-1 39/64	(346)
28	28	28	6-9 7/16	(2068)	1-2 39/64	(371)
28	30	28	6-11 7/16	(2119)	1-2 39/64	(371)
28	32	28	7-1 7/16	(2170)	1-2 39/64	(371)
28	36	28	7-5 7/16	(2272)	1-2 39/64	(371)
28	40	28	7-9 7/16	(2373)	1-2 39/64	(371)
28	48	28	8-5 7/16	(2576)	1-2 39/64	(371)
28	56	28	9-1 7/16	(2780)	1-2 39/64	(371)
28	60	28	9-5 7/16	(2881)	1-2 39/64	(371)
28	64	28	9-9 7/16	(2983)	1-2 39/64	(371)
28	72	28	10-5 7/16	(3186)	1-2 39/64	(371)
30	30	30	7-2 57/64	(2207)	1-3 39/64	(397)
30	32	30	7-4 57/64	(2258)	1-3 39/64	(397)
30	36	30	7-8 57/64	(2360)	1-3 39/64	(397)
30	40	30	8-0 57/64	(2461)	1-3 39/64	(397)
30	48	30	8-8 57/64	(2664)	1-3 39/64	(397)
30	56	30	9-4 57/64	(2868)	1-3 39/64	(397)
30	60	30	9-8 57/64	(2969)	1-3 39/64	(397)
30	64	30	10-0 57/64	(3071)	1-3 39/64	(397)
30	72	30	10-8 57/64	(3274)	1-3 39/64	(397)
32	32	32	7-8 23/64	(2346)	1-4 39/64	(422)
32	36	32	8-0 23/64	(2448)	1-4 39/64	(422)
32	40	32	8-4 23/64	(2549)	1-4 39/64	(422)
32	48	32	9-0 23/64	(2752)	1-4 39/64	(422)
32	56	32	9-8 23/64	(2956)	1-4 39/64	(422)
32	60	32	10-0 23/64	(3057)	1-4 39/64	(422)
32	64	32	10-4 23/64	(3159)	1-4 39/64	(422)
32	72	32	11-0 23/64	(3362)	1-4 39/64	(422)
36	36	36	8-7 19/64	(2624)	1-6 39/64	(473)
36	40	36	8-11 19/64	(2725)	1-6 39/64	(473)
36	48	36	9-7 19/64	(2928)	1-6 39/64	(473)
36	56	36	10-3 19/64	(3132)	1-6 39/64	(473)
36	60	36	10-7 19/64	(3233)	1-6 39/64	(473)
36	64	36	10-11 19/64	(3335)	1-6 39/64	(473)
36	72	36	11-7 19/64	(3538)	1-6 39/64	(473)

NOTE: Clad BMC or Flat Casing will change Rough Opening and Projection. Contact your Marvin representative.

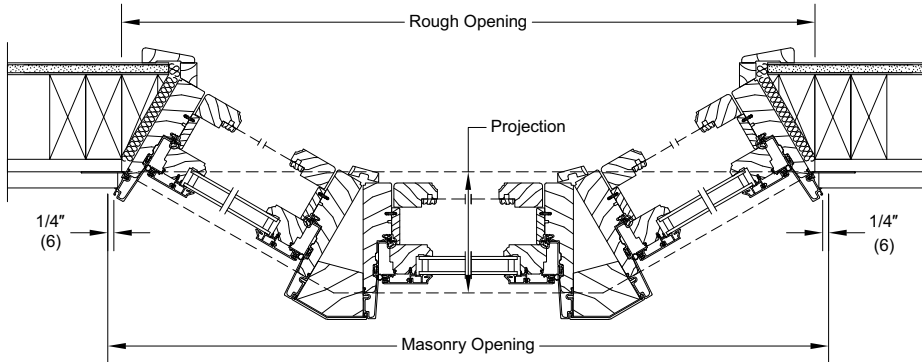
**Construction Details / Rough Opening and Projection Calculations: 30° Bay**

Scale: Not to Scale

**30-Degree Bay - Ultimate Casement**



**30-Degree Bay - Ultimate Casement Push Out**



**Optional retro fit bay square jamb return for UCAP BB.**

Ultimate Casement Bay Ultimate Casement Push Out Bay	
30-Degree (no casing)	
Projection	OM <b>width</b> of flanker unit PLUS 1.223 x 0.5
Rough Opening Width	(Projection x 1.732) x 2 PLUS 2.82 PLUS OM <b>width</b> of Center Unit
Masonry Opening Unit	Add 1 7/32" (31) to Rough Opening <b>width</b>
Rough Opening Height (with Head and Seat boards)	OM height on center unit(s) PLUS 1" (25)
Masonry Opening Height (with Head and Seat boards)	Rough Opening height MINUS 1/4" (6)

*NOTE: If no head board, Deduct 11/16" (17) from Rough Opening Height  
 If no seat board, Deduct 11/16" (17) from Rough Opening Height  
 Clad BMC or Flat Casing will change Rough Opening and Projection. Contact your Marvin representative.*

## Standard Width Call Number: UCABB and UCAPOBB-45° Bay

Call Number (Width)			45° Bay			
Side	Center	Side	RO		Projection	
16	16	16	3-9 21/64	(1151)	1-0 41/64	(321)
16	18	16	3-11 21/64	(1202)	1-0 41/64	(321)
16	20	16	4-1 21/64	(1253)	1-0 41/64	(321)
16	24	16	4-5 21/64	(1355)	1-0 41/64	(321)
16	26	16	4-7 21/64	(1405)	1-0 41/64	(321)
16	28	16	4-9 21/64	(1456)	1-0 41/64	(321)
16	30	16	4-11 21/64	(1507)	1-0 41/64	(321)
16	32	16	5-1 21/64	(1558)	1-0 41/64	(321)
16	36	16	5-5 21/64	(1659)	1-0 41/64	(321)
16	40	16	5-9 21/64	(1761)	1-0 41/64	(321)
16	48	16	6-5 21/64	(1964)	1-0 41/64	(321)
16	56	16	7-1 21/64	(2167)	1-0 41/64	(321)
16	60	16	7-5 21/64	(2269)	1-0 41/64	(321)
16	64	16	7-9 21/64	(2371)	1-0 41/64	(321)
16	72	16	8-5 21/64	(2574)	1-0 41/64	(321)
18	18	18	4-2 5/32	(1274)	1-2 1/16	(357)
18	20	18	4-4 5/32	(1325)	1-2 1/16	(357)
18	24	18	4-8 5/32	(1426)	1-2 1/16	(357)
18	26	18	4-10 5/32	(1477)	1-2 1/16	(357)
18	28	18	5-0 5/32	(1528)	1-2 1/16	(357)
18	30	18	5-2 5/32	(1579)	1-2 1/16	(357)
18	32	18	5-4 5/32	(1630)	1-2 1/16	(357)
18	36	18	5-8 5/32	(1731)	1-2 1/16	(357)
18	40	18	6-0 5/32	(1833)	1-2 1/16	(357)
18	48	18	6-8 5/32	(2036)	1-2 1/16	(357)
18	56	18	7-4 5/32	(2239)	1-2 1/16	(357)
18	60	18	7-8 5/32	(2341)	1-2 1/16	(357)
18	64	18	8-0 5/32	(2442)	1-2 1/16	(357)
18	72	18	8-8 5/32	(2646)	1-2 1/16	(357)
20	20	20	4-6 63/64	(1397)	1-3 15/32	(393)
20	24	20	4-10 63/64	(1498)	1-3 15/32	(393)
20	26	20	5-0 63/64	(1549)	1-3 15/32	(393)
20	28	20	5-2 63/64	(1600)	1-3 15/32	(393)
20	30	20	5-4 63/64	(1651)	1-3 15/32	(393)
20	32	20	5-6 63/64	(1701)	1-3 15/32	(393)
20	36	20	5-10 63/64	(1803)	1-3 15/32	(393)
20	40	20	6-2 63/64	(1905)	1-3 15/32	(393)
20	48	20	6-10 63/64	(2108)	1-3 15/32	(393)
20	56	20	7-6 63/64	(2311)	1-3 15/32	(393)
20	60	20	7-10 63/64	(2413)	1-3 15/32	(393)
20	64	20	8-2 63/64	(2514)	1-3 15/32	(393)
20	72	20	8-10 63/64	(2717)	1-3 15/32	(393)
24	24	24	5-4 41/64	(1642)	1-6 19/64	(465)
24	26	24	5-6 41/64	(1693)	1-6 19/64	(465)
24	28	24	5-8 41/64	(1743)	1-6 19/64	(465)
24	30	24	5-10 41/64	(1794)	1-6 19/64	(465)
24	32	24	6-0 41/64	(1845)	1-6 19/64	(465)
24	36	24	6-4 41/64	(1947)	1-6 19/64	(465)
24	40	24	6-8 41/64	(2048)	1-6 19/64	(465)
24	48	24	7-4 41/64	(2251)	1-6 19/64	(465)
24	56	24	8-0 41/64	(2455)	1-6 19/64	(465)
24	60	24	8-4 41/64	(2556)	1-6 19/64	(465)
24	64	24	8-8 41/64	(2658)	1-6 19/64	(465)
24	72	24	9-4 41/64	(2861)	1-6 19/64	(465)

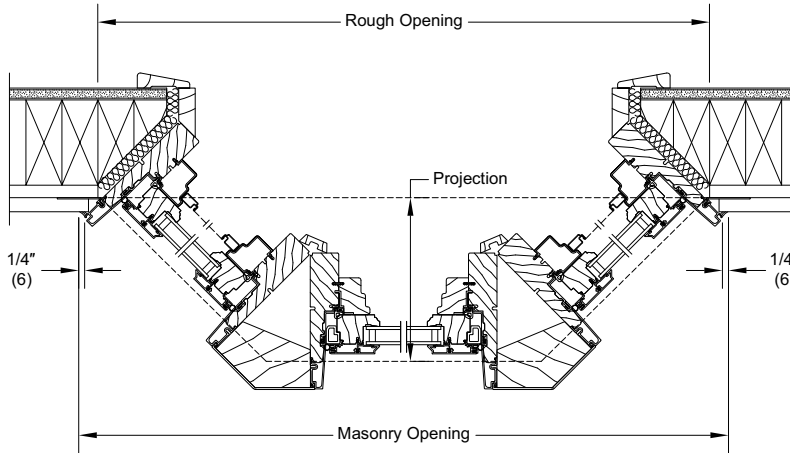
Call Number (Width)			45° Bay			
Side	Center	Side	RO		Projection	
26	26	26	5-9 15/32	(1764)	1-7 23/32	(501)
26	28	26	5-11 15/32	(1815)	1-7 23/32	(501)
26	30	26	6-1 15/32	(1866)	1-7 23/32	(501)
26	32	26	6-3 15/32	(1917)	1-7 23/32	(501)
26	36	26	6-7 15/32	(2018)	1-7 23/32	(501)
26	40	26	6-11 15/32	(2120)	1-7 23/32	(501)
26	48	26	7-7 15/32	(2323)	1-7 23/32	(501)
26	56	26	8-3 15/32	(2526)	1-7 23/32	(501)
26	60	26	8-7 15/32	(2628)	1-7 23/32	(501)
26	64	26	8-11 15/32	(2730)	1-7 23/32	(501)
26	72	26	9-7 15/32	(2933)	1-7 23/32	(501)
28	28	28	6-2 19/64	(1887)	1-9 1/8	(537)
28	30	28	6-4 19/64	(1938)	1-9 1/8	(537)
28	32	28	6-6 19/64	(1989)	1-9 1/8	(537)
28	36	28	6-10 19/64	(2090)	1-9 1/8	(537)
28	40	28	7-2 19/64	(2192)	1-9 1/8	(537)
28	48	28	7-10 19/64	(2395)	1-9 1/8	(537)
28	56	28	8-6 19/64	(2598)	1-9 1/8	(537)
28	60	28	8-10 19/64	(2700)	1-9 1/8	(537)
28	64	28	9-2 19/64	(2802)	1-9 1/8	(537)
28	72	28	9-10 19/64	(3005)	1-9 1/8	(537)
30	30	30	6-7 1/8	(2010)	1-10 35/64	(573)
30	32	30	6-9 1/8	(2061)	1-10 35/64	(573)
30	36	30	7-1 1/8	(2162)	1-10 35/64	(573)
30	40	30	7-5 1/8	(2264)	1-10 35/64	(573)
30	48	30	8-1 1/8	(2467)	1-10 35/64	(573)
30	56	30	8-9 1/8	(2670)	1-10 35/64	(573)
30	60	30	9-1 1/8	(2772)	1-10 35/64	(573)
30	64	30	9-5 1/8	(2873)	1-10 35/64	(573)
30	72	30	10-1 1/8	(3077)	1-10 35/64	(573)
32	32	32	6-11 61/64	(2132)	1-11 61/64	(609)
32	36	32	7-3 61/64	(2234)	1-11 61/64	(609)
32	40	32	7-7 61/64	(2336)	1-11 61/64	(609)
32	48	32	8-3 61/64	(2539)	1-11 61/64	(609)
32	56	32	8-11 61/64	(2742)	1-11 61/64	(609)
32	60	32	9-3 61/64	(2844)	1-11 61/64	(609)
32	64	32	9-7 61/64	(2945)	1-11 61/64	(609)
32	72	32	10-3 61/64	(3148)	1-11 61/64	(609)
36	36	36	7-9 39/64	(2378)	2-2 25/32	(680)
36	40	36	8-1 39/64	(2479)	2-2 25/32	(680)
36	48	36	8-9 39/64	(2682)	2-2 25/32	(680)
36	56	36	9-5 39/64	(2886)	2-2 25/32	(680)
36	60	36	9-9 39/64	(2987)	2-2 25/32	(680)
36	64	36	10-1 39/64	(3089)	2-2 25/32	(680)
36	72	36	10-9 39/64	(3292)	2-2 25/32	(680)

NOTE: Clad BMC or Flat Casing will change Rough Opening and Projection. Contact your Marvin representative.

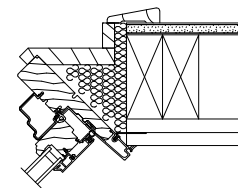
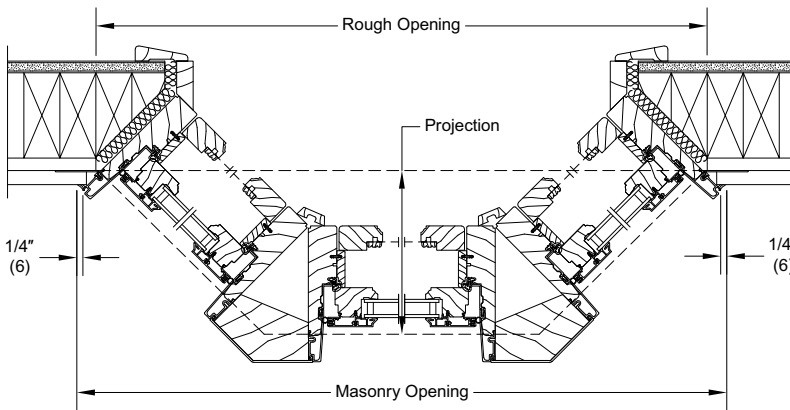
**Construction Details / Rough Opening and Projection Calculations: 45° Bay**

Scale: Not to Scale

**45-Degree Bay - Ultimate Casement**



**45-Degree Bay - Ultimate Casement Push Out**



**Optional retro fit bay square jamb return for UCAPO Bay.**

Ultimate Casement Bay Ultimate Casement Push Out Bay	
45-Degree (no casing)	
Projection	OM <b>width</b> of flanker unit PLUS 1.89 x 0.707
Rough Opening Width	Projection x 2 Plus 4.03 Plus OM <b>width</b> of Center Unit
Masonry Opening Width	Add 1 13/16" (46) to Rough Opening <b>width</b>
Rough Opening Height (with Head and Seat Boards)	OM height on center unit(s) Plus 1 7/8" (48)
Masonry Opening Height (with Head and Seat Boards)	Rough Opening height Minus 1/4" (6)

*NOTE: If no head board, Deduct 11/16" (17) from Rough Opening Height*

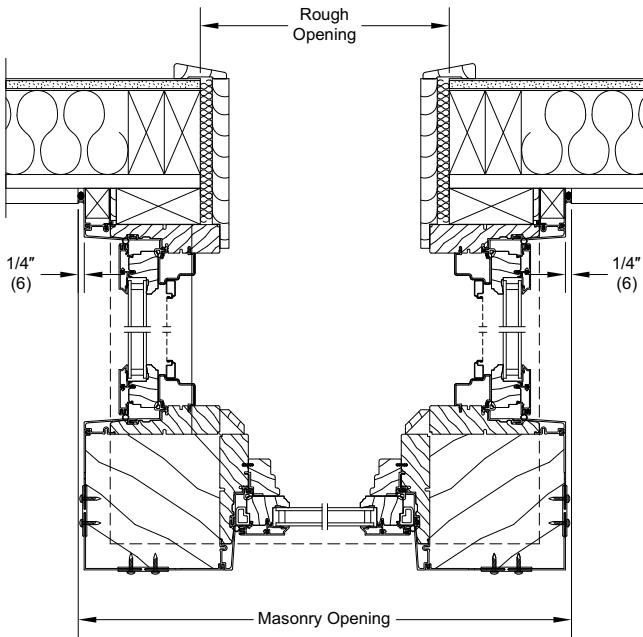
*If no seat board, Deduct 11/16" (17) from Rough Opening Height*

*Clad BMC or Flat Casing will change Rough Opening and Projection. Contact your Marvin representative.*

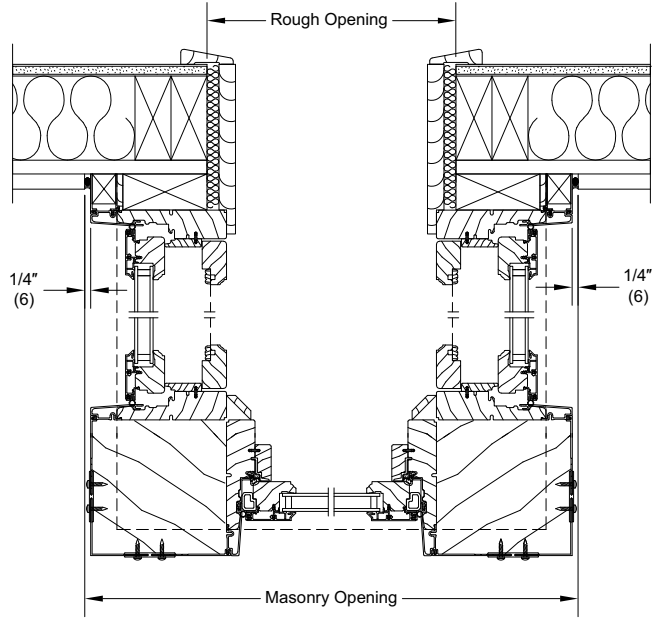
**Construction Details / Rough Opening and Projection Calculations: 90° Bay**

Scale: Not to Scale

**90-Degree Bay - Ultimate Casement**



**90-Degree Bay - Ultimate Casement Push Out**



Ultimate Casement Bay Ultimate Casement Push Out Bay	
90-Degree (no casing)	
Projection	OM <b>width</b> of flanker unit PLUS 6 1/16" (154)
Rough Opening Width	OM <b>width</b> of Center Unit(s) PLUS 1 5/8" (41)
Masonry Opening Unit	Add 10 3/16" (259) to Rough Opening <b>width</b>
Rough Opening Height (with Head and Seat boards)	OM height on center unit(s) PLUS 1 7/8" (48)
Masonry Opening Height (with Head and Seat boards)	Rough Opening height MINUS 1/4" (6)

*NOTE: If no head board, Deduct 11/16" (17) from Rough Opening Height  
 If no seat board, Deduct 11/16" (17) from Rough Opening Height  
 Clad BMC or Flat Casing will change Rough Opening and Projection. Contact your Marvin representative.*