

# ULTIMATE

MARVIN SIGNATURE™ COLLECTION



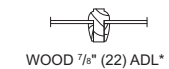
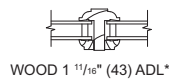
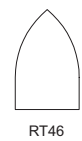
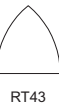
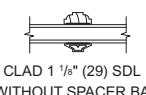
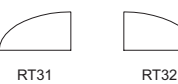
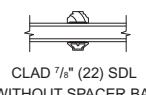
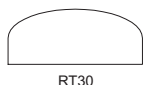
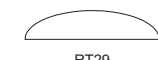
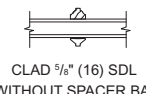
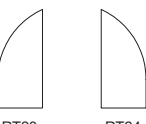
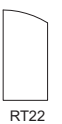
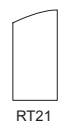
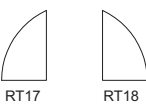
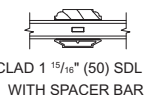
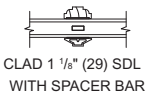
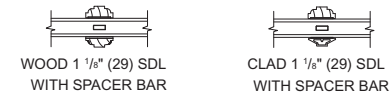
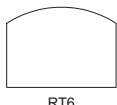
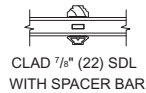
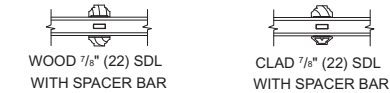
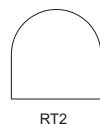
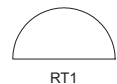
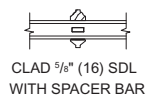
# TABLE OF CONTENTS

|     |  |     |   |
|-----|--|-----|---|
| 4   | Product Options  | 101 | Casement Narrow Frame   |
| 6   | Ordering   | 103 | Casement Narrow Frame Push Out  |
| 7   | Performance Rating Information and Standards           | 105 | French Casement Narrow Frame Push Out                                       |
| 8   | Wood Double Hung                                       | 107 | Wood Casement Narrow Frame Round Top / Casement Narrow Frame Round Top      |
| 11  | Wood Double Hung Transom                               | 108 | Wood Casement Narrow Frame Operator Polygon / Casement Narrow Frame Polygon |
| 12  | Wood Double Hung Picture                               | 109 | Wood Casement Round Top   |
| 14  | Wood Double Hung Round Top                             | 119 | Wood Casement Transom Picture Round Top                                     |
| 17  | Wood Double Hung Transom Round Top                     | 121 | Wood Casement Picture Round Top   |
| 18  | Wood Direct Glaze Round Top - Double Hung              | 123 | Wood Direct Glaze Round Top - Casement                                      |
| 21  | Double Hung G2   | 126 | Casement Round Top  |
| 28  | Double Hung Transom G2                                 | 136 | Casement Picture Round Top  |
| 29  | Double Hung Picture G2                                 | 140 | Direct Glaze Round Top - Casement   |
| 31  | Double Hung Round Top G2                               | 142 | Casement Polygon  |
| 40  | Double Hung Transom Round Top G2                       | 144 | Casement Venting Picture  |
| 42  | Double Hung Picture Round Top G2                       | 149 | Wood Casement Bay   |
| 44  | Single Hung Round Top G2                               | 151 | Casement Bay  |
| 48  | Direct Glaze Round Top - Double Hung                   | 153 | Wood Casement Bow   |
| 52  | Wood Double Hung Insert                                | 154 | Casement Bow  |
| 53  | Wood Double Hung Insert Transom / Picture              | 155 | Glider  |
| 54  | Double Hung Insert G2                                  | 156 | Glider Triple Sash  |
| 56  | Double Hung Insert Transom / Picture G2                | 158 | Glider Picture  |
| 57  | Double Hung Tilt Pac - Wood and Clad                   | 160 | Wood Tilt Turn / Wood Tilt Turn Inswing Casement / Wood Tilt Turn Hopper    |
| 59  | Wood Double Hung Bay                                   | 161 | Tilt Turn / Tilt Turn Inswing Casement / Tilt Turn Hopper                   |
| 62  | Double Hung Bay G2                                     | 162 | Wood and Clad Polygons and Special Shapes                                   |
| 63  | Double Hung Bow G2                                     | 163 | Wood Direct Glaze Polygon / Direct Glaze Polygon                            |
| 64  | Wood Casement / Wood Casement Push Out                 | 164 | Direct Glaze Polygon Corner / Direct Glaze Narrow Frame Corner              |
| 68  | Casement / Casement Push Out                           | 165 | Direct Glaze Narrow Frame Polygon   |
| 72  | Wood French Casement / Wood French Casement Push Out   | 166 | Swinging French Doors   |
| 76  | French Casement / French Casement Push Out             | 181 | Sliding Doors   |
| 80  | Wood Awning / Wood Awning Push Out                     | 193 | Scenic Doors (Bi-Fold, Lift and Slide, Multi-Slide)                         |
| 86  | Awning / Awning Push Out                               | 211 | Thermal Performance   |
| 92  | Wood Casement Picture / Wood Casement Push Out Picture | 256 | IZ3 / IZ4   |
| 96  | Casement Picture / Casement Push Out Picture           |     |   |
| 100 | Wood Casement Narrow Frame / Wood Awning Narrow Frame  |     |   |

**PRODUCT OPTIONS**

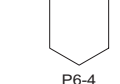
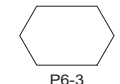
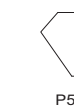
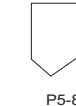
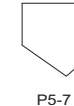
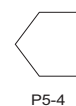
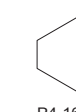
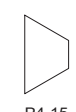
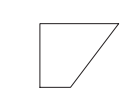
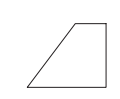
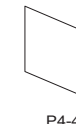
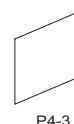
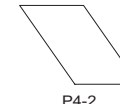
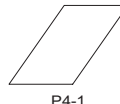
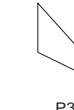
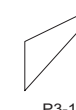
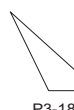
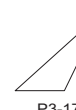
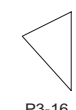
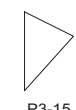
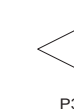
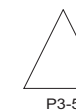
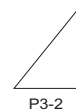
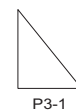
MUNTIN PROFILES

QUICK REFERENCE TO ROUND TOP SHAPES



**PRODUCT OPTIONS**

QUICK REFERENCE TO POLYGON SHAPES



Details and Elevations not to scale.  
For further details and drawings visit the 'Tools and Documents' section at [Marvin.com](http://Marvin.com).

\* For additional ADL profiles consult with your local Marvin representative.

## ORDERING

The following pages include specifications for many of the standard windows and doors Marvin makes. For complete specification information, visit Marvin.com or contact your local Marvin representative. There's a lot of information here, but once you understand the different elements, these pages will become the first step in seeing your window and door dreams become a reality. So when you meet with your local Marvin representative, you'll be speaking the same language. And should you have something special in mind, remember that in addition to the thousands of standard offerings listed here, our favorite challenge is creating a custom window or door that has never been built before.

## SPECIFICATION INFORMATION

Each product section is divided into wood and clad, with metric measurements in parenthesis. Cross section drawings are also included. Product codes for ordering are listed under each unit but do not necessarily indicate product size.

You'll notice width and height measurements are given for each size. The masonry opening (MO) is the size of the hole needed if the window is to be installed within a brick, block or stone opening; rough openings (RO) are the required hole size in houses covered with wood, vinyl or metal siding. Frame size (FS) measures from edge to edge of your window (excluding exterior casings); daylight opening (DLO) indicates the dimensions of the visible glass in a single sash (operating or stationary). See chart below.

|                 |                 |                |                |
|-----------------|-----------------|----------------|----------------|
| <b>MO (mm)</b>  | 1-7 5/8 (499)   | 1-11 5/8 (600) | 2-3 5/8 (702)  |
| <b>RO (mm)</b>  | 1-5 (432)       | 1-9 (533)      | 2-0 (610)      |
| <b>FS (mm)</b>  | 1-4 (406)       | 1-8 (508)      | 2-1 (635)      |
| <b>DLO (mm)</b> | 0-10 3/16 (259) | 1-2 3/16 (360) | 1-6 3/16 (462) |



## OPERATING VS. STATIONARY

Marvin drawings always illustrate the window sash or door panels as if you are looking from the outside in. Identifying which sash or panels are operating is a little counter-intuitive. X means operating, O means stationary. So when listing the sash or panels start from the left to right looking from the exterior. For example, a two panel French Door with a left operating panel and a right stationary panel would be identified as XO. A French Door with two operating panels would be identified as XX.

The identification of stationary/operating panels is then followed by the handing of the primary operating panel (the one that would be opened first, in the case of two operating panels). If you stand straddling the sill of a door with your back to the hinge of the operating panel, notice which hand you would use to reach out and close the door. That indicates whether a door panel is "R" – right handing or "L" – left handing for Marvin residential doors.



## ORDERING CONSIDERATIONS

All products are ordered through window and door professionals. They'll take care of you every step of the way, working with you to specify each detail. Since Marvin products are not warehoused and are made to order to your exact needs, product returns are at the discretion of your individual dealer.

Listed below are some of the details you may want to consider:

- Wood species
- Bare Wood, primed interior and interior stains
- Bare Wood, primed or clad exterior
- Glazing options such as insulating glass and Low E3 to optimize energy efficiency
- Divided Lite options: Authentic Divided Lite, Simulated Divided Lite, Simulated Divided Lite with spacers, Grilles-Between-the-Glass
- Hardware styles and finishes
- Exterior casings and subsills
- Operating vs. stationary sash and panels
- Screen or combination storm/screen needs
- Jamb depth needs
- Shades

Details and Elevations not to scale.

- Numbers listed in parentheses ( ) are metric equivalents in millimeters rounded to the nearest whole number
- Allow 1/16" (2) tolerance on all measurements
- On clad units, all masonry openings are based on units without casing
- All performance information is based on Marvin installation recommendations for standard products
- Due to the variety of combinations of casing and subsill options available, special dimensional considerations for different installation methods will be required. Please contact your local Marvin retailer when specifying these casing and subsill combinations

Please consult your local Marvin representative for more information.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

The information provided in this catalog has been gathered and assembled with every effort made to validate accuracy and consistency of the content. However, Marvin does not make any warranty or guarantee as to this information.

Please verify critical product data in Marvin Order Management System (OMS) quotes and at the time of ordering.

## PERFORMANCE RATING INFORMATION AND STANDARDS

As you flip through this catalog, you'll see different ratings on the performance of Marvin windows and doors.

Here's some brief background information:

## WDMA STANDARDS

The Window and Door Manufacturers Association (WDMA) in conjunction with other organizations in the industry developed standards that make it easy to compare windows and doors from different manufacturers, testing product performance regarding air and water infiltration, as well as physical loads on the exterior and interior (very important when you consider the pressure differentials that can occur in coastal areas, as well as forced entry resistance). Marvin products are rated in accordance with the AAMA/WDMA/CSA 101/I.S.2/A440-08, or AAMA/WDMA/CSA 101/I.S.2/A40-11.AAMA/WDMA/CSA 101/I.S.2/A440-17, AAMA/WDMA/CSA 101/I.S.2/A440-17, Standards are certified in compliance with the WDMA Hallmark program.

## PERFORMANCE GRADE (PG)

A Performance Grade (PG) Rating is given to products that comply with and attain a specific level of performance in accordance with current testing standards/specifications created by AAMA/WDMA/CSA standards. Once all applicable testing has been successfully completed for air infiltration, water penetration resistance, and structural loading which also includes load deflection, ease of operation, and forced entry resistance testing, a PG rating is given. The higher a PG number the product is rated, the better the performance.

## NFRC

Marvin is a founding member of the National Fenestration Rating Council, an independent, non-profit organization that has established an energy performance rating system for accurately comparing different window and door products. Some factors considered in creating an individual window or door's rating include: the U-factor (measuring heat loss), the solar heat gain coefficient, and visible light transmission, evaluating the frame, sash and glass in its entirety. See Marvin.com/support/energy-data for complete and up to date NFRC values by product.

## ENERGY STAR®

The U.S. Department of Energy and the U.S. Environmental Protection Agency created this standard to help consumers identify products that reduce energy use. Windows and doors that qualify for ENERGY STAR are twice as efficient as an average window produced ten years ago and must be rated, certified, and labeled according to the NFRC. To get current energy data, go to energystar.gov.

## EGRESS CODE

International Building Code – 2012 and 2015 Section 1009 Emergency Escape and Rescue.

**1026.2 Minimum size:** Emergency escape and rescue openings shall have a minimum net clear opening of 5.7 sq ft (0.53 m2).

Exception: The minimum net clear opening for emergency escape and rescue openings on the ground level at grade is 5.0 sq ft (0.46 m2).

**1026.2.1 Minimum dimensions:** The minimum net clear opening height dimension shall be 24 inches (610 mm). The net clear opening width dimension shall be 20 inches (508 mm). The net clear opening dimensions shall be the result of normal operation of the opening.

**1026.3 Maximum height from the floor:** Emergency escape and rescue opening shall have the bottom of the clear opening not greater than 44 inches (1118 mm) measured from the floor.

**1026.4 Operational constraints:** Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools. Bars, grilles, grates or similar devices are permitted to be placed over emergency escape and rescue openings provided the minimum net clear opening size complies with Section 1026.2 and such devices shall be releasable or removable from the inside without the use of a key, tool or force greater than that which is required for normal operation of the escape and rescue opening. Where such bars, grilles, grates or similar devices are installed in existing buildings, smoke alarms shall be installed in accordance with section 907.2.10 regardless of the valuation of the alteration.

Code restrictions may vary depending on your local building codes.

WOOD DOUBLE HUNG

| MO (mm)          | 2-0 1/2 (622)   | 2-4 1/2 (724)   | 2-8 1/2 (826)    | 2-10 1/2 (876)  | 3-0 1/2 (927)   | 3-2 1/2 (978)   | 3-4 1/2 (1029)  | 3-8 1/2 (1130)   | 4-0 1/2 (1232)  |
|------------------|-----------------|-----------------|------------------|-----------------|-----------------|-----------------|-----------------|------------------|-----------------|
| RO (mm)          | 1-10 3/8 (568)  | 2-2 3/8 (670)   | 2-6 3/8 (772)    | 2-8 3/8 (822)   | 2-10 3/8 (873)  | 3-0 3/8 (924)   | 3-2 3/8 (975)   | 3-6 3/8 (1076)   | 3-10 3/8 (1178) |
| FS (mm)          | 1-9 3/8 (543)   | 2-1 3/8 (645)   | 2-5 3/8 (746)    | 2-7 3/8 (797)   | 2-9 3/8 (848)   | 2-11 3/8 (899)  | 3-1 3/8 (949)   | 3-5 3/8 (1051)   | 3-9 3/8 (1153)  |
| DLO (mm)         | 1-2 15/16 (379) | 1-6 15/16 (481) | 1-10 15/16 (583) | 2-0 15/16 (633) | 2-2 15/16 (684) | 2-4 15/16 (735) | 2-6 15/16 (786) | 2-10 15/16 (887) | 3-2 15/16 (989) |
| 2-10 9/16 (878)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 2-9 1/2 (851)    |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 2-9 1/2 (853w)   |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 3-1 1/2 (840)    |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 3-1 1/2 (853w)   |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 3-1 (840)        |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 1-0 15/16 (329)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 3-2 9/16 (860)   |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 3-2 9/16 (880)   |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 3-1 1/2 (1054)   |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 3-5 (1041)       |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 1-2 15/16 (379)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 3-6 9/16 (1081)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 3-6 9/16 (1081)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 3-5 1/2 (1054)   |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 3-5 (1041)       |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 1-2 15/16 (379)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 3-10 9/16 (1183) |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 3-10 9/16 (1183) |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 3-9 1/2 (1156)   |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 3-9 (1143)       |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 1-4 15/16 (430)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 4-2 9/16 (1284)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 4-2 9/16 (1284)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 4-1 1/2 (1257)   |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 4-1 (1245)       |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 1-6 15/16 (481)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 4-6 9/16 (1386)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 4-6 9/16 (1386)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 4-5 1/2 (1359)   |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 4-5 (1346)       |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 1-8 15/16 (532)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 4-10 9/16 (1488) |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 4-10 9/16 (1488) |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 4-9 1/2 (1461)   |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 4-9 (1448)       |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 1-10 15/16 (683) |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 5-2 9/16 (1589)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 5-2 9/16 (1589)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 5-1 1/2 (1562)   |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 5-1 (1549)       |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 2-0 15/16 (633)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 5-6 9/16 (1691)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 5-6 9/16 (1691)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 5-5 1/2 (1664)   |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 5-5 (1651)       |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 2-2 15/16 (684)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |

MULTIPLE ASSEMBLY CONVERSIONS

| ROUGH OPENING                    |                                | MASONRY OPENING WITH BMC             |                                   |
|----------------------------------|--------------------------------|--------------------------------------|-----------------------------------|
| Width                            | Height                         | Width                                | Height                            |
| Add all frame sizes plus 1" (25) | Add frame sizes plus 1/2" (13) | Add all frame sizes plus 3 1/8" (79) | Add frame sizes plus 1 9/16" (39) |

Details and Elevations not to scale.  
 E These windows meet national Egress codes for fire evacuation. Local codes may differ.

\* For more Cottage Style sizes than the sample shown, please contact your Marvin representative. Ultimate Double Hung cottage call number formula is figured in fifths. Top sash is 2/5 and bottom is 3/5.

- Standard call number; 2024
- Add the two glass heights; 24" + 24" = 48"
- Divide 48" by 2/5; 19-13/64"
- Round to the nearest standard glass height; 20"
- Subtract from total glass height; 48" - 20" = 28" The call number for the above example is: 2020/28. The top sash will be a 2020 and the bottom sash will be a 2028

Ultimate Wood Double Hung: UWDH

WOOD DOUBLE HUNG

| MO (mm)          | 2-0 1/2 (622)   | 2-4 1/2 (724)   | 2-8 1/2 (826)    | 2-10 1/2 (876)  | 3-0 1/2 (927)   | 3-2 1/2 (978)   | 3-4 1/2 (1029)  | 3-8 1/2 (1130)   | 4-0 1/2 (1232)  |
|------------------|-----------------|-----------------|------------------|-----------------|-----------------|-----------------|-----------------|------------------|-----------------|
| RO (mm)          | 1-10 3/8 (568)  | 2-2 3/8 (670)   | 2-6 3/8 (772)    | 2-8 3/8 (822)   | 2-10 3/8 (873)  | 3-0 3/8 (924)   | 3-2 3/8 (975)   | 3-6 3/8 (1076)   | 3-10 3/8 (1178) |
| FS (mm)          | 1-9 3/8 (543)   | 2-1 3/8 (645)   | 2-5 3/8 (746)    | 2-7 3/8 (797)   | 2-9 3/8 (848)   | 2-11 3/8 (899)  | 3-1 3/8 (949)   | 3-5 3/8 (1051)   | 3-9 3/8 (1153)  |
| DLO (mm)         | 1-2 15/16 (379) | 1-6 15/16 (481) | 1-10 15/16 (583) | 2-0 15/16 (633) | 2-2 15/16 (684) | 2-4 15/16 (735) | 2-6 15/16 (786) | 2-10 15/16 (887) | 3-2 15/16 (989) |
| 5-10 9/16 (1792) |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 5-9 1/2 (1765)   |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 5-9 (1753)       |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 2-4 15/16 (735)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 6-2 9/16 (1894)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 6-2 9/16 (1894)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 6-1 1/2 (1867)   |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 6-1 (1854)       |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 2-6 15/16 (786)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 6-6 9/16 (1996)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 6-6 9/16 (1996)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 6-5 1/2 (1969)   |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 6-5 (1956)       |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 2-8 15/16 (837)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 6-10 9/16 (2097) |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 6-10 9/16 (2097) |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 6-9 1/2 (2070)   |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 6-9 (2057)       |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 2-10 15/16 (887) |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 7-6 9/16 (2300)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 7-6 9/16 (2300)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 7-5 1/2 (2273)   |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 7-5 (2261)       |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 3-2 15/16 (989)  |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 7-10 9/16 (2402) |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 7-10 9/16 (2402) |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 7-9 1/2 (2375)   |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 7-9 (2362)       |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 3-4 15/16 (1040) |                 |                 |                  |                 |                 |                 |                 |                  |                 |

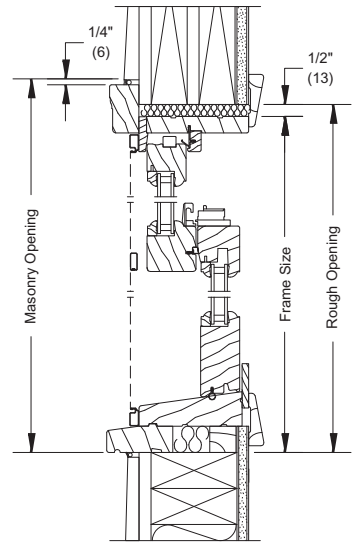
COTTAGE STYLE\*

| MO (mm)                             | 2-0 1/2 (622)   | 2-4 1/2 (724)   | 2-8 1/2 (826)    | 2-10 1/2 (876)  | 3-0 1/2 (927)   | 3-2 1/2 (978)   | 3-4 1/2 (1029)  | 3-8 1/2 (1130)   | 4-0 1/2 (1232)  |
|-------------------------------------|-----------------|-----------------|------------------|-----------------|-----------------|-----------------|-----------------|------------------|-----------------|
| RO (mm)                             | 1-10 3/8 (568)  | 2-2 3/8 (670)   | 2-6 3/8 (772)    | 2-8 3/8 (822)   | 2-10 3/8 (873)  | 3-0 3/8 (924)   | 3-2 3/8 (975)   | 3-6 3/8 (1076)   | 3-10 3/8 (1178) |
| FS (mm)                             | 1-9 3/8 (543)   | 2-1 3/8 (645)   | 2-5 3/8 (746)    | 2-7 3/8 (797)   | 2-9 3/8 (848)   | 2-11 3/8 (899)  | 3-1 3/8 (949)   | 3-5 3/8 (1051)   | 3-9 3/8 (1153)  |
| DLO (mm)                            | 1-2 15/16 (379) | 1-6 15/16 (481) | 1-10 15/16 (583) | 2-0 15/16 (633) | 2-2 15/16 (684) | 2-4 15/16 (735) | 2-6 15/16 (786) | 2-10 15/16 (887) | 3-2 15/16 (989) |
| 5-10 9/16 (1792)                    |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 5-9 1/2 (1765)                      |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 5-9 (1753)                          |                 |                 |                  |                 |                 |                 |                 |                  |                 |
| 1-10 15/16 (583) / 2-10 15/16 (887) |                 |                 |                  |                 |                 |                 |                 |                  |                 |

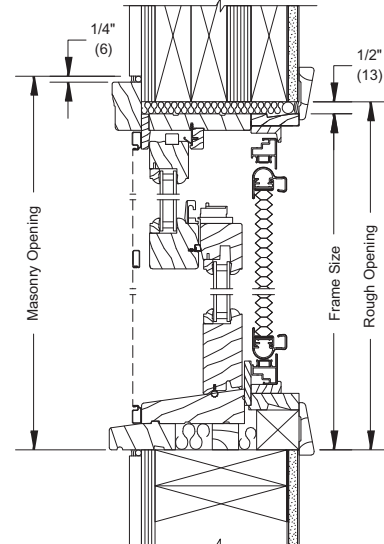
Please consult your local Marvin representative for more information. For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

# WOOD DOUBLE HUNG

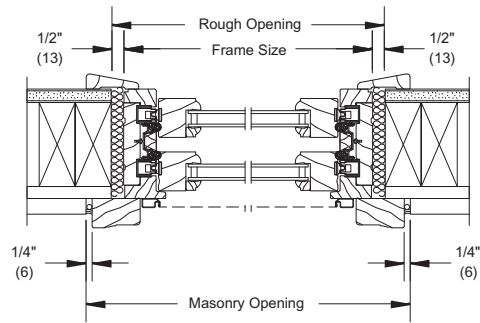
## CONSTRUCTION DETAILS



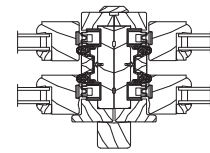
HEAD JAMB AND SILL - OPERATOR



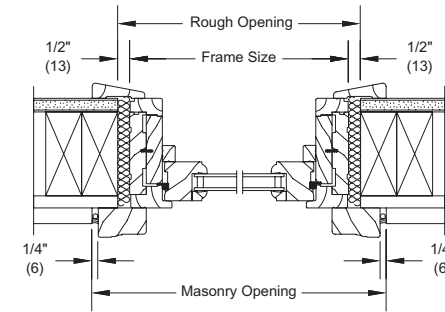
HEAD JAMB AND SILL - OPERATOR WITH INTERIOR SHADE



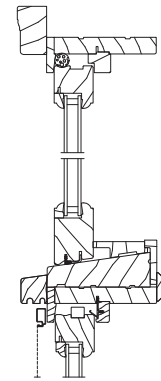
JAMB - OPERATOR



VERTICAL MULLION OPERATOR



JAMB - OPERATOR



TRANSOM MULLED OVER ULTIMATE WOOD DOUBLE HUNG

# WOOD DOUBLE HUNG TRANSOM

|                 |                 |                 |                  |                 |                 |                 |                 |                  |                 |
|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-----------------|-----------------|------------------|-----------------|
| <b>MO (mm)</b>  | 2-0 1/2 (622)   | 2-4 1/2 (724)   | 2-8 1/2 (826)    | 2-10 1/2 (876)  | 3-0 1/2 (927)   | 3-2 1/2 (978)   | 3-4 1/2 (1029)  | 3-8 1/2 (1130)   | 4-0 1/2 (1232)  |
| <b>RO (mm)</b>  | 1-10 3/8 (568)  | 2-2 3/8 (670)   | 2-6 3/8 (772)    | 2-8 3/8 (822)   | 2-10 3/8 (873)  | 3-0 3/8 (924)   | 3-2 3/8 (975)   | 3-6 3/8 (1076)   | 3-10 3/8 (1178) |
| <b>FS (mm)</b>  | 1-9 3/8 (543)   | 2-1 3/8 (645)   | 2-5 3/8 (746)    | 2-7 3/8 (797)   | 2-9 3/8 (848)   | 2-11 3/8 (899)  | 3-1 3/8 (949)   | 3-5 3/8 (1051)   | 3-9 3/8 (1153)  |
| <b>DLO (mm)</b> | 1-2 15/16 (379) | 1-6 15/16 (481) | 1-10 15/16 (583) | 2-0 15/16 (633) | 2-2 15/16 (684) | 2-4 15/16 (735) | 2-6 15/16 (786) | 2-10 15/16 (887) | 3-2 15/16 (989) |

|                 |            |            |            |            |            |            |            |            |            |
|-----------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 1-6 15/16 (481) | UWDHTR1612 | UWDHTR2012 | UWDHTR2412 | UWDHTR2612 | UWDHTR2812 | UWDHTR3012 | UWDHTR3212 | UWDHTR3612 | UWDHTR4012 |
| 1-5 7/8 (454)   |            |            |            |            |            |            |            |            |            |
| 1-5 3/8 (441)   |            |            |            |            |            |            |            |            |            |
| 0-1 15/16 (278) |            |            |            |            |            |            |            |            |            |
| 2-2 15/16 (684) | UWDHTR1620 | UWDHTR2020 | UWDHTR2420 | UWDHTR2620 | UWDHTR2820 | UWDHTR3020 | UWDHTR3220 | UWDHTR3620 | UWDHTR4020 |
| 2-1 7/8 (657)   |            |            |            |            |            |            |            |            |            |
| 2-1 3/8 (645)   |            |            |            |            |            |            |            |            |            |
| 1-6 15/16 (481) |            |            |            |            |            |            |            |            |            |

## CONSTRUCTION DETAILS

Details and Elevations not to scale.  
 • Transom heights do not include subsill. Add 1 3/32" (28) for stand alone heights if subsill is wanted.  
 Please consult your local Marvin representative for more information.  
 For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

Ultimate Wood Double Hung Transom: UWDHTR

WOOD DOUBLE HUNG PICTURE

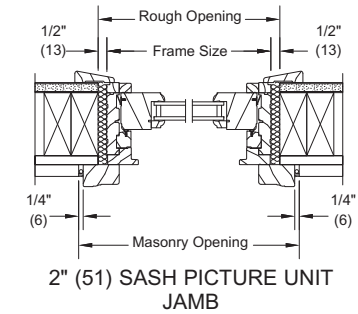
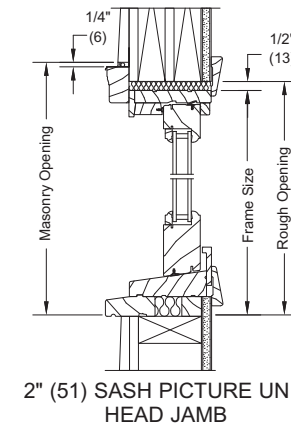
| MO (mm)          | 3-8 1/2 (1130)   | 4-4 1/2 (1334)   | 4-8 1/2 (1435)    | 5-4 1/2 (1638)   | 6-0 1/2 (1842)   |
|------------------|------------------|------------------|-------------------|------------------|------------------|
| RO (mm)          | 3-6 3/8 (1076)   | 4-2 3/8 (1280)   | 4-6 3/8 (1381)    | 5-2 3/8 (1584)   | 5-10 3/8 (1788)  |
| FS (mm)          | 3-5 3/8 (1051)   | 4-1 3/8 (1254)   | 4-5 3/8 (1356)    | 5-1 3/8 (1559)   | 5-9 3/8 (1762)   |
| DLO (mm)         | 2-10 15/16 (887) | 3-6 15/16 (1091) | 3-10 15/16 (1192) | 4-6 15/16 (1395) | 5-2 15/16 (1599) |
| 3-6 9/16 (1081)  |                  |                  |                   |                  |                  |
| 3-5 1/2 (1054)   |                  |                  |                   |                  |                  |
| 3-5 (1041)       |                  |                  |                   |                  |                  |
| 2-8 1/4 (819)    |                  |                  |                   |                  |                  |
| 3-10 9/16 (1183) |                  |                  |                   |                  |                  |
| 3-9 1/2 (1156)   |                  |                  |                   |                  |                  |
| 3-9 (1143)       |                  |                  |                   |                  |                  |
| 3-0 1/4 (921)    |                  |                  |                   |                  |                  |
| 4-2 9/16 (1284)  |                  |                  |                   |                  |                  |
| 4-1 1/2 (1257)   |                  |                  |                   |                  |                  |
| 4-1 (1245)       |                  |                  |                   |                  |                  |
| 3-4 1/4 (1022)   |                  |                  |                   |                  |                  |
| 4-6 9/16 (1386)  |                  |                  |                   |                  |                  |
| 4-5 1/2 (1359)   |                  |                  |                   |                  |                  |
| 4-5 (1346)       |                  |                  |                   |                  |                  |
| 3-8 1/4 (1124)   |                  |                  |                   |                  |                  |
| 4-10 9/16 (1488) |                  |                  |                   |                  |                  |
| 4-9 1/2 (1461)   |                  |                  |                   |                  |                  |
| 4-9 (1448)       |                  |                  |                   |                  |                  |
| 4-0 1/4 (1226)   |                  |                  |                   |                  |                  |
| 5-2 9/16 (1589)  |                  |                  |                   |                  |                  |
| 5-1 1/2 (1562)   |                  |                  |                   |                  |                  |
| 5-1 (1549)       |                  |                  |                   |                  |                  |
| 4-4 1/4 (1327)   |                  |                  |                   |                  |                  |
| 5-6 9/16 (1691)  |                  |                  |                   |                  |                  |
| 5-5 1/2 (1664)   |                  |                  |                   |                  |                  |
| 5-5 (1651)       |                  |                  |                   |                  |                  |
| 4-8 1/4 (1429)   |                  |                  |                   |                  |                  |
| 5-10 9/16 (1792) |                  |                  |                   |                  |                  |
| 5-9 1/2 (1765)   |                  |                  |                   |                  |                  |
| 5-9 (1753)       |                  |                  |                   |                  |                  |
| 5-0 1/4 (1530)   |                  |                  |                   |                  |                  |
| 6-2 9/16 (1894)  |                  |                  |                   |                  |                  |
| 6-1 1/2 (1867)   |                  |                  |                   |                  |                  |
| 6-1 (1854)       |                  |                  |                   |                  |                  |
| 5-4 1/4 (1632)   |                  |                  |                   |                  |                  |
| 6-6 9/16 (1996)  |                  |                  |                   |                  |                  |
| 6-5 1/2 (1969)   |                  |                  |                   |                  |                  |
| 6-5 (1956)       |                  |                  |                   |                  |                  |
| 5-8 1/4 (1734)   |                  |                  |                   |                  |                  |

Ultimate Wood Double Hung Picture: UWDHP

WOOD DOUBLE HUNG PICTURE

| MO (mm)          | 3-8 1/2 (1130)   | 4-4 1/2 (1334)   | 4-8 1/2 (1435)    | 5-4 1/2 (1638)   | 6-0 1/2 (1842)   |
|------------------|------------------|------------------|-------------------|------------------|------------------|
| RO (mm)          | 3-6 3/8 (1076)   | 4-2 3/8 (1280)   | 4-6 3/8 (1381)    | 5-2 3/8 (1584)   | 5-10 3/8 (1788)  |
| FS (mm)          | 3-5 3/8 (1051)   | 4-1 3/8 (1254)   | 4-5 3/8 (1356)    | 5-1 3/8 (1559)   | 5-9 3/8 (1762)   |
| DLO (mm)         | 2-10 15/16 (887) | 3-6 15/16 (1091) | 3-10 15/16 (1192) | 4-6 15/16 (1395) | 5-2 15/16 (1599) |
| 6-10 9/16 (2097) |                  |                  |                   |                  |                  |
| 6-9 1/2 (2070)   |                  |                  |                   |                  |                  |
| 6-9 (2057)       |                  |                  |                   |                  |                  |
| 6-0 1/4 (1835)   |                  |                  |                   |                  |                  |
| 7-8 9/16 (2300)  |                  |                  |                   |                  |                  |
| 7-5 1/2 (2273)   |                  |                  |                   |                  |                  |
| 7-5 (2261)       |                  |                  |                   |                  |                  |
| 6-8 1/4 (2038)   |                  |                  |                   |                  |                  |
| 7-10 9/16 (2402) |                  |                  |                   |                  |                  |
| 7-9 1/2 (2375)   |                  |                  |                   |                  |                  |
| 7-9 (2362)       |                  |                  |                   |                  |                  |
| 7-0 1/4 (2140)   |                  |                  |                   |                  |                  |

CONSTRUCTION DETAILS



Details and Elevations not to scale.  
 • 2" Picture Sash shown. 1 5/8" also available.  
 Please consult your local Marvin representative for more information.  
 For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

# WOOD DOUBLE HUNG ROUND TOP

RT6 EYEBROW ABOVE SPRINGLINE STANDARD SIZES ONE WIDE OPERATOR

| RO (mm)       | 2-2 3/8 (670)   | 2-6 3/8 (772)     | 2-10 3/8 (873)   | 3-2 3/8 (975)   | 3-6 3/8 (1076)   | 3-10 3/8 (1178) |
|---------------|-----------------|-------------------|------------------|-----------------|------------------|-----------------|
| RO Rad. (mm)  | 2-0 1/2 (622)   | 2-0 1/2 (622)     | 2-6 1/2 (775)    | 3-4 1/2 (1029)  | 3-4 1/2 (1029)   | 3-4 1/2 (1029)  |
| RO (mm)       | 3-5 1/8 (1045)  | 3-6 17/32 (1080)  | 3-6 9/16 (1081)  | 3-6 1/8 (1070)  | 3-7 9/32 (1099)  | 3-8 9/16 (1132) |
| RO Spln. (mm) | 3-1 9/32 (947)  | 3-1 1/4 (946)     | 3-1 9/32 (947)   | 3-1 5/16 (947)  | 3-1 9/32 (947)   | 3-1 9/32 (947)  |
|               | UWDHRT2014      | UWDHRT2414        | UWDHRT2814       | UWDHRT3214      | UWDHRT3614       | UWDHRT4014      |
| RO (mm)       | 3-9 1/8 (1146)  | 3-10 17/32 (1182) | 3-10 9/16 (1183) | 3-10 1/8 (1172) | 3-11 9/32 (1201) | 4-0 9/16 (1233) |
| RO Spln. (mm) | 3-5 9/32 (1048) | 3-5 1/4 (1048)    | 3-5 9/32 (1048)  | 3-5 5/16 (1049) | 3-5 9/32 (1049)  | 3-5 9/32 (1048) |
|               | UWDHRT2016      | UWDHRT2416        | UWDHRT2816       | UWDHRT3216      | UWDHRT3616       | UWDHRT4016      |
| RO (mm)       | 4-1 1/8 (1248)  | 4-2 17/32 (1283)  | 4-2 9/16 (1285)  | 4-2 1/8 (1273)  | 4-3 9/32 (1302)  | 4-4 9/16 (1335) |
| RO Spln. (mm) | 3-9 9/32 (1150) | 3-9 1/4 (1149)    | 3-9 9/32 (1150)  | 3-9 5/16 (1151) | 3-9 9/32 (1150)  | 3-9 9/32 (1150) |
|               | UWDHRT2018      | UWDHRT2418        | UWDHRT2818       | UWDHRT3218      | UWDHRT3618       | UWDHRT4018      |
| RO (mm)       | 4-5 1/8 (1349)  | 4-6 17/32 (1385)  | 4-6 9/16 (1386)  | 4-6 1/8 (1375)  | 4-7 9/32 (1404)  | 4-8 9/16 (1437) |
| RO Spln. (mm) | 4-1 9/32 (1252) | 4-1 1/4 (1251)    | 4-1 9/32 (1252)  | 4-1 5/16 (1253) | 4-1 9/32 (1252)  | 4-1 9/32 (1251) |
|               | UWDHRT2020      | UWDHRT2420        | UWDHRT2820       | UWDHRT3220      | UWDHRT3620       | UWDHRT4020      |
| RO (mm)       | 4-9 1/8 (1451)  | 4-10 17/32 (1486) | 4-10 9/16 (1488) | 4-10 1/8 (1477) | 4-11 9/32 (1505) | 5-0 9/16 (1538) |
| RO Spln. (mm) | 4-5 9/32 (1353) | 4-5 1/4 (1352)    | 4-5 9/32 (1353)  | 4-5 5/16 (1354) | 4-5 9/32 (1359)  | 4-5 9/32 (1353) |
|               | UWDHRT2022      | UWDHRT2422        | UWDHRT2822       | UWDHRT3222      | UWDHRT3622       | UWDHRT4022      |
| RO (mm)       | 5-1 1/8 (1553)  | 5-2 17/32 (1588)  | 5-2 9/16 (1589)  | 5-2 1/8 (1578)  | 5-3 9/32 (1607)  | 5-4 9/16 (1640) |
| RO Spln. (mm) | 4-9 9/32 (1455) | 4-9 1/4 (1454)    | 4-9 9/32 (1455)  | 4-9 5/16 (1455) | 4-9 9/32 (1455)  | 4-9 9/32 (1455) |
|               | UWDHRT2024      | UWDHRT2424        | UWDHRT2824       | UWDHRT3224      | UWDHRT3624       | UWDHRT4024      |
| RO (mm)       | 5-5 1/8 (1654)  | 5-6 17/32 (1690)  | 5-6 9/16 (1691)  | 5-6 1/8 (1680)  | 5-7 9/32 (1709)  | 5-8 9/16 (1741) |
| RO Spln. (mm) | 5-1 9/32 (1556) | 5-1 1/4 (1556)    | 5-1 9/32 (1556)  | 5-1 5/16 (1557) | 5-1 9/32 (1557)  | 5-1 9/32 (1556) |
|               | UWDHRT2026      | UWDHRT2426        | UWDHRT2826       | UWDHRT3226      | UWDHRT3626       | UWDHRT4026      |

# WOOD DOUBLE HUNG ROUND TOP

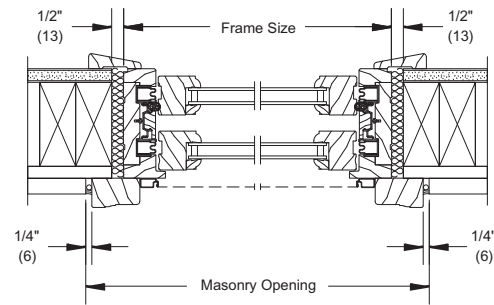
RT6 EYEBROW ABOVE SPRINGLINE STANDARD SIZES ONE WIDE OPERATOR

| RO (mm)       | 2-2 3/8 (670)   | 2-6 3/8 (772)     | 2-10 3/8 (837)   | 3-2 3/8 (975)   | 3-6 3/8 (1076)   | 3-10 3/8 (1178) |
|---------------|-----------------|-------------------|------------------|-----------------|------------------|-----------------|
| RO Rad. (mm)  | 2-0 1/2 (622)   | 2-0 1/2 (622)     | 2-6 1/2 (775)    | 3-4 1/2 (1029)  | 3-4 1/2 (1029)   | 3-4 1/2 (1029)  |
| RO (mm)       | 5-9 1/8 (1756)  | 5-10 17/32 (1791) | 5-10 9/16 (1792) | 5-10 1/8 (1781) | 5-11 9/32 (1810) | 6-0 9/16 (1843) |
| RO Spln. (mm) | 5-5 9/32 (1658) | 5-5 1/4 (1657)    | 5-5 9/32 (1658)  | 5-5 5/16 (1659) | 5-5 9/32 (1658)  | 5-5 9/32 (1658) |
|               | UWDHRT2028      | UWDHRT2428        | UWDHRT2828       | UWDHRT3228 E    | UWDHRT3628 E     | UWDHRT4028 E    |
| RO (mm)       | 6-1 1/8 (1858)  | 6-2 17/32 (1893)  | 6-2 9/16 (1894)  | 6-2 1/8 (1883)  | 6-3 9/32 (1912)  | 6-4 9/16 (1945) |
| RO Spln. (mm) | 5-9 9/32 (1760) | 5-9 1/4 (1759)    | 5-9 9/32 (1759)  | 5-9 5/16 (1760) | 5-9 9/32 (1760)  | 5-9 9/32 (1759) |
|               | UWDHRT2030      | UWDHRT2430        | UWDHRT2830 E     | UWDHRT3230 E    | UWDHRT3630 E     | UWDHRT4030 E    |
| RO (mm)       | 6-5 1/8 (1959)  | 6-6 17/32 (1994)  | 6-6 9/16 (1996)  | 6-6 1/8 (1985)  | 6-7 9/32 (2013)  | 6-8 9/16 (2046) |
| RO Spln. (mm) | 6-1 9/32 (1861) | 6-1 1/4 (1860)    | 6-1 9/32 (1861)  | 6-1 5/16 (1862) | 6-1 9/32 (1861)  | 6-1 9/32 (1861) |
|               | UWDHRT2032      | UWDHRT2432        | UWDHRT2832 E     | UWDHRT3232 E    | UWDHRT3632 E     | UWDHRT4032 E    |
| RO (mm)       | 6-9 1/8 (2061)  | 6-10 17/32 (2096) | 6-10 9/16 (2097) | 6-10 1/8 (2086) | 6-11 9/32 (2115) | 7-0 9/16 (2148) |
| RO Spln. (mm) | 6-5 9/32 (1963) | 6-5 1/4 (1962)    | 6-5 9/32 (1963)  | 6-5 5/16 (1963) | 6-5 9/32 (1963)  | 6-5 9/32 (1963) |
|               | UWDHRT2034      | UWDHRT2434 E      | UWDHRT2834 E     | UWDHRT3234 E    | UWDHRT3634 E     | UWDHRT4034 E    |
| RO (mm)       | 7-1 1/8 (2162)  | 7-2 17/32 (2198)  | 7-2 9/16 (2199)  | 7-2 1/8 (2188)  | 7-3 9/32 (2217)  | 7-4 9/16 (2249) |
| RO Spln. (mm) | 6-9 9/32 (2064) | 6-9 1/4 (2064)    | 6-9 9/32 (2064)  | 6-9 5/16 (2065) | 6-9 9/32 (2065)  | 6-9 9/32 (2064) |
|               | UWDHRT2036      | UWDHRT2436 E      | UWDHRT2836 E     | UWDHRT3236 E    | UWDHRT3636 E     | UWDHRT4036 E    |

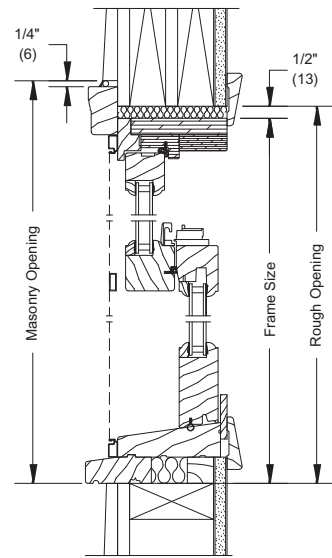
Details and Elevations not to scale.  
 E These windows meet national Egress codes for fire evacuation.  
 Local codes may differ.  
 Please consult your local Marvin representative for more information.  
 For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

# WOOD DOUBLE HUNG ROUND TOP

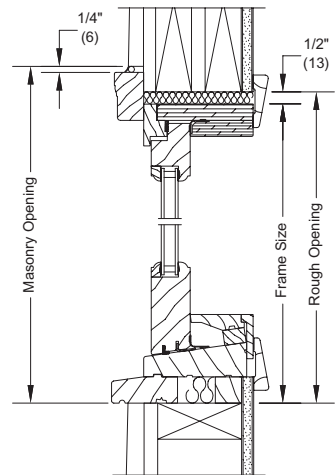
## CONSTRUCTION DETAILS



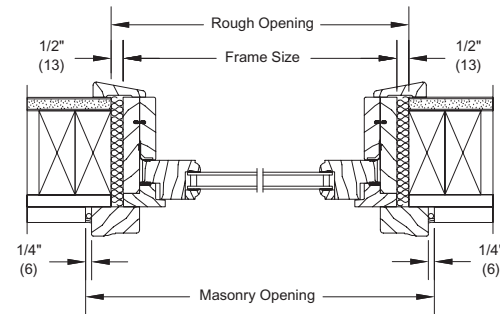
JAMB - OPERATOR



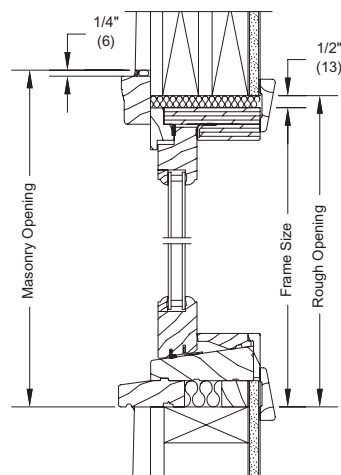
HEAD JAMB AND SILL - OPERATOR



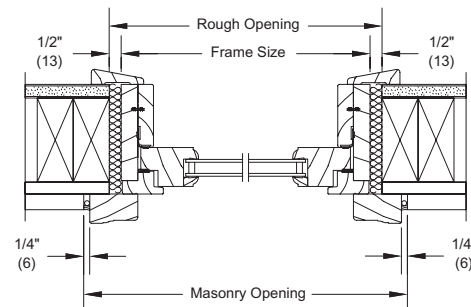
1 5/8" SASH  
HEAD JAMB AND SILL - PICTURE



1 5/8" SASH  
JAMB - PICTURE



1 5/8" SASH  
HEAD JAMB AND SILL - TRANSOM



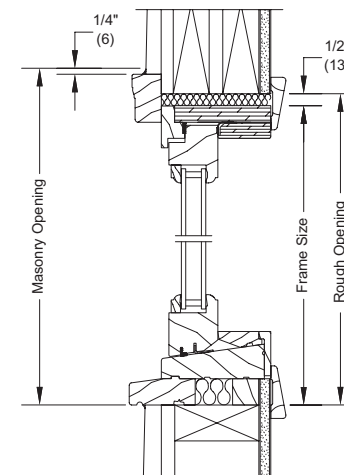
1 5/8" SASH  
JAMB - TRANSOM

# WOOD DOUBLE HUNG TRANSOM ROUND TOP

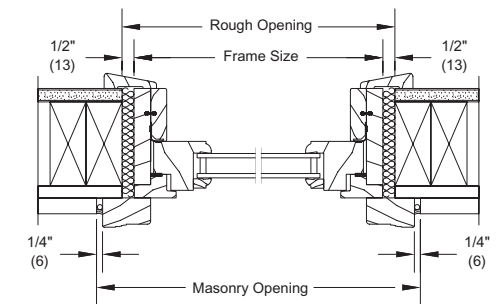
## RT1 TRUE HALF CIRCLE - IN SASH TRANSOM

|              |                |                 |                |                 |                |                |
|--------------|----------------|-----------------|----------------|-----------------|----------------|----------------|
| RO (mm)      | 2-2 3/8 (670)  | 2-6 3/8 (772)   | 2-8 3/8 (822)  | 2-10 3/8 (873)  | 3-0 3/8 (924)  | 3-2 3/8 (975)  |
| RO Rad. (mm) | 1-1 3/16 (335) | 1-3 3/16 (386)  | 1-4 3/16 (411) | 1-5 3/16 (437)  | 1-6 3/16 (462) | 1-7 3/16 (487) |
| RO (mm)      | 1-1 3/16 (335) | 1-3 3/16 (386)  | 1-4 3/16 (411) | 1-5 3/16 (437)  | 1-6 3/16 (462) | 1-7 3/16 (487) |
|              | UWDHTRRT2015   | UWDHTRRT2417    | UWDHTRRT2618   | UWDHTRRT2819    | UWDHTRRT3020   | UWDHTRRT3221   |
| RO (mm)      | 3-6 3/8 (1076) | 3-10 3/8 (1178) | 4-3 3/4 (1314) | 4-11 3/4 (1518) | 5-7 3/4 (1721) | 6-3 3/4 (1924) |
| RO Rad. (mm) | 1-9 3/16 (538) | 1-11 3/16 (589) | 2-1 7/8 (657)  | 2-5 7/8 (759)   | 2-9 7/8 (860)  | 3-1 7/8 (962)  |
| RO (mm)      | 1-9 3/16 (538) | 1-11 3/16 (589) | 2-1 7/8 (657)  | 2-5 7/8 (759)   | 2-9 7/8 (860)  | 3-1 7/8 (962)  |
|              | UWDHTRRT3623   | UWDHTRRT4025    | UWDHTRRT5027   | UWDHTRRT5831    | UWDHTRRT6635   | UWDHTRRT7439   |

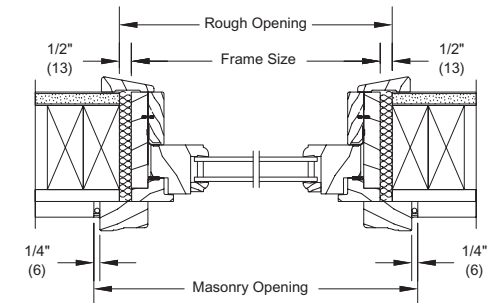
## CONSTRUCTION DETAILS



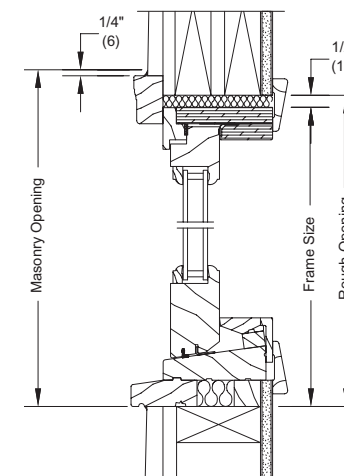
2" SASH HEAD JAMB AND SILL - TRANSOM



2" SASH JAMB - TRANSOM



2" SASH JAMB - PICTURE



2" SASH HEAD JAMB AND SILL - PICTURE

Details and Elevations not to scale.  
 • Elevations shown represent standard transoms without subsill. Add 15/16" (24) for direct glaze and 1 3/32" (28) for in sash to the rough opening height for standalone unit.  
 • Construction details without subsill not shown.  
 Please consult your local Marvin representative for more information.  
 For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

Ultimate Wood Double Hung Transom Round Top: UWDHTRRT

## WOOD DIRECT GLAZE ROUND TOP – Double Hung

RT6 EYEBROW ABOVE SPRINGLINE STANDARD SIZES - DIRECT GLAZE

| RO (mm)      | 2-2 3/8 (670)  | 2-6 3/8 (772)   | 2-8 3/8 (822)  | 2-10 3/8 (873)  | 3-0 3/8 (924)  | 3-2 3/8 (975)    | 3-6 3/8 (1076) |
|--------------|----------------|-----------------|----------------|-----------------|----------------|------------------|----------------|
| RO Rad. (mm) | 2-0 1/2 (622)  |                 | 2-6 1/2 (775)  |                 | 3-4 1/2 (1029) |                  | 3-4 1/2 (1029) |
| RO (mm)      | 1-0 1/2 (318)  | 0-7 7/32 (183)  | 0-7 7/8 (200)  | 0-7 3/16 (183)  | 0-6 1/2 (165)  | 0-7 11/16 (195)  | 0-6 1/2 (165)  |
| RO Spn. (mm) | 0-8 5/8 (219)  |                 |                |                 |                |                  |                |
|              | UWDGRT2511     | UWDGRT2911      | UWDGRT3111     | UWDGRT3311      | UWDGRT3511     | UWDGRT3711       | UWDGRT4111     |
| RO (mm)      | 1-6 1/2 (470)  | 1-1 7/32 (336)  | 1-1 7/8 (352)  | 1-1 3/16 (335)  | 1-0 1/2 (318)  | 1-1 11/16 (348)  | 1-0 1/2 (318)  |
| RO Spn. (mm) | 1-2 5/8 (372)  |                 |                |                 |                |                  |                |
|              | UWDGRT2519     | UWDGRT2919      | UWDGRT3119     | UWDGRT3319      | UWDGRT3519     | UWDGRT3719       | UWDGRT4119     |
| RO (mm)      | 2-0 1/2 (622)  | 1-7 7/32 (488)  | 1-7 7/8 (505)  | 1-7 3/16 (487)  | 1-6 1/2 (470)  | 1-7 11/16 (500)  | 1-6 1/2 (470)  |
| RO Spn. (mm) | 1-8 5/8 (524)  |                 |                |                 |                |                  |                |
|              | UWDGRT2523     | UWDGRT2923      | UWDGRT3123     | UWDGRT3323      | UWDGRT3523     | UWDGRT3723       | UWDGRT4123     |
| RO (mm)      | 3-0 1/2 (827)  | 2-7 7/32 (793)  | 2-7 7/8 (810)  | 2-7 3/16 (792)  | 2-6 1/2 (775)  | 2-7 11/16 (805)  | 2-6 1/2 (775)  |
| RO Spn. (mm) | 2-8 5/8 (829)  |                 |                |                 |                |                  |                |
|              | UWDGRT2535     | UWDGRT2935      | UWDGRT3135     | UWDGRT3335      | UWDGRT3535     | UWDGRT3735       | UWDGRT4135     |
| RO (mm)      | 4-0 1/2 (1232) | 3-7 7/32 (1098) | 3-7 7/8 (1114) | 3-7 3/16 (1097) | 3-6 1/2 (1080) | 3-7 11/16 (1110) | 3-6 1/2 (1080) |
| RO Spn. (mm) | 3-8 5/8 (1133) |                 |                |                 |                |                  |                |
|              | UWDGRT2547     | UWDGRT2947      | UWDGRT3147     | UWDGRT3347      | UWDGRT3547     | UWDGRT3747       | UWDGRT4147     |
| RO (mm)      | 5-0 1/2 (1537) | 4-7 7/32 (1403) | 4-7 7/8 (1419) | 4-7 3/16 (1402) | 4-6 1/2 (1384) | 4-7 11/16 (1414) | 4-6 1/2 (1384) |
| RO Spn. (mm) | 4-8 5/8 (1438) |                 |                |                 |                |                  |                |
|              | UWDGRT2559     | UWDGRT2959      | UWDGRT3159     | UWDGRT3359      | UWDGRT3559     | UWDGRT3759       | UWDGRT4159     |
| RO (mm)      | 6-0 1/2 (1842) | 5-7 7/32 (1707) | 5-7 7/8 (1724) | 5-7 3/16 (1707) | 5-6 1/2 (1689) | 5-7 11/16 (1719) | 5-6 1/2 (1689) |
| RO Spn. (mm) | 5-8 5/8 (1745) |                 |                |                 |                |                  |                |
|              | UWDGRT2571     | UWDGRT2971      | UWDGRT3171     | UWDGRT3371      | UWDGRT3571     | UWDGRT3771       | UWDGRT4171     |

## WOOD DIRECT GLAZE ROUND TOP – Double Hung

RT6 EYEBROW ABOVE SPRINGLINE STANDARD SIZES - DIRECT GLAZE

| RO (mm)      | 3-10 3/8 (1178) | 4-3 3/4 (1314)  | 4-11 3/4 (1518) | 5-7 3/4 (1721) | 6-3 3/4 (1924)   |
|--------------|-----------------|-----------------|-----------------|----------------|------------------|
| RO Rad. (mm) | 3-4 1/2 (1029)  |                 | 4-6 1/2 (1384)  |                | 6-0 1/2 (1842)   |
| RO (mm)      | 1-6 1/2 (470)   | 0-9 5/32 (233)  | 0-9 9/16 (243)  | 0-10 7/8 (257) | 0-7 13/16 (198)  |
| RO Spn. (mm) | 0-11 7/32 (285) |                 |                 |                |                  |
|              | UWDGRT4519      | UWDGRT5119      | UWDGRT5919      | UWDGRT6719     | UWDGRT7519       |
| RO (mm)      | 2-0 1/2 (622)   | 1-3 5/32 (385)  | 1-3 9/16 (395)  | 1-4 1/8 (410)  | 1-1 13/16 (351)  |
| RO Spn. (mm) | 1-5 7/32 (437)  |                 |                 |                |                  |
|              | UWDGRT4523      | UWDGRT5123      | UWDGRT5923      | UWDGRT6723     | UWDGRT7523       |
| RO (mm)      | 3-0 1/2 (827)   | 2-3 5/32 (690)  | 2-3 9/16 (700)  | 2-4 7/8 (714)  | 2-1 13/16 (656)  |
| RO Spn. (mm) | 2-5 7/32 (742)  |                 |                 |                |                  |
|              | UWDGRT4535      | UWDGRT5135      | UWDGRT5935      | UWDGRT6735     | UWDGRT7535       |
| RO (mm)      | 4-0 1/2 (1232)  | 3-3 5/32 (895)  | 3-3 9/16 (1005) | 3-4 7/8 (1019) | 3-1 13/16 (960)  |
| RO Spn. (mm) | 3-5 7/32 (1047) |                 |                 |                |                  |
|              | UWDGRT4547      | UWDGRT5147      | UWDGRT5947      | UWDGRT6747     | UWDGRT7547       |
| RO (mm)      | 5-0 1/2 (1537)  | 4-3 5/32 (1299) | 4-3 9/16 (1310) | 4-4 7/8 (1324) | 4-1 13/16 (1265) |
| RO Spn. (mm) | 4-5 7/32 (1352) |                 |                 |                |                  |
|              | UWDGRT4559      | UWDGRT5159      | UWDGRT5959      | UWDGRT6759     | UWDGRT7559       |
| RO (mm)      | 6-0 1/2 (1842)  | 5-3 5/32 (1604) | 5-3 9/16 (1614) | 5-4 7/8 (1629) | 5-1 13/16 (1570) |
| RO Spn. (mm) | 5-5 7/32 (1657) |                 |                 |                |                  |
|              | UWDGRT4571      | UWDGRT5171      | UWDGRT5971      | UWDGRT6771     | UWDGRT7571       |

Details and Elevations not to scale.

- If these units are NOT used as transoms, ADD 1 3/32" (28) to the rough opening height for subsill.

Please consult your local Marvin representative for more information.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

# WOOD DIRECT GLAZE ROUND TOP – Double Hung

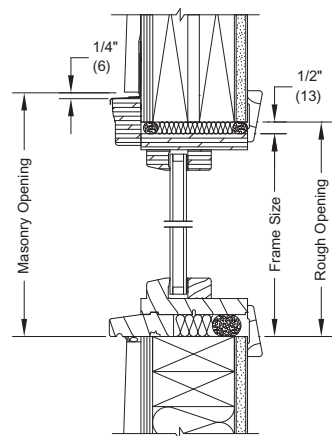
## RT1 TRUE HALF CIRCLE STANDARD SIZES - DIRECT GLAZE

|         |                 |                |                 |                |                |                |
|---------|-----------------|----------------|-----------------|----------------|----------------|----------------|
| RO (mm) | 2-6 3/8 (772)   | 2-8 3/8 (822)  | 2-10 3/8 (873)  | 3-0 3/8 (924)  | 3-2 3/8 (975)  | 3-6 3/8 (1076) |
|         | 1-3 3/16 (386)  | 1-4 3/16 (411) | 1-5 3/16 (437)  | 1-6 3/16 (462) | 1-7 3/16 (487) | 1-9 3/16 (538) |
|         | UWDGRT2914      | UWDGRT3115     | UWDGRT3316      | UWDGRT3517     | UWDGRT3718     | UWDGRT4120     |
| RO (mm) |                 |                |                 |                |                |                |
| RO (mm) | 3-10 3/8 (1178) | 4-3 3/4 (1314) | 4-11 3/4 (1518) | 5-7 3/4 (1721) | 6-3 3/4 (1924) |                |
|         | 1-11 3/16 (689) | 2-1 7/8 (667)  | 2-5 7/8 (769)   | 2-9 7/8 (860)  | 3-1 7/8 (962)  |                |
|         | UWDGRT4522      | UWDGRT5025     | UWDGRT5828      | UWDGRT6632     | UWDGRT7437     |                |
| RO (mm) |                 |                |                 |                |                |                |

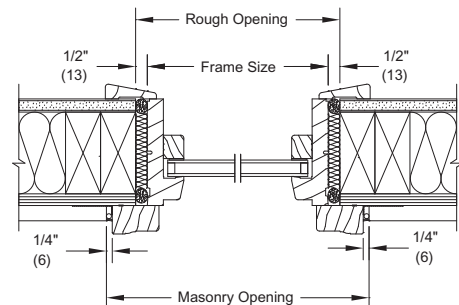
## RT29 ELLIPTICAL STANDARD SIZES - DIRECT GLAZE

|         |                |                 |                |                |
|---------|----------------|-----------------|----------------|----------------|
| RO (mm) | 4-3 3/4 (1314) | 4-11 3/4 (1518) | 5-7 3/4 (1721) | 6-3 3/4 (1924) |
|         | 1-5 5/16 (456) |                 |                |                |
|         | UWDGRT5118     | UWDGRT5918      | UWDGRT6718     | UWDGRT7518     |
| RO (mm) |                |                 |                |                |

## CONSTRUCTION DETAILS



HEAD JAMB AND SILL - DIRECT GLAZE



JAMB - DIRECT GLAZE

Details and Elevations not to scale.

- If these units are NOT used as transoms, ADD 1 3/32" (28) to the rough opening height for subsill.

Please consult your local Marvin representative for more information.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

# DOUBLE HUNG G2

|                 |                |                |                |                |                |                |
|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| MO (mm)         | 1-9 3/4 (552)  | 2-1 3/4 (654)  | 2-5 3/4 (756)  | 2-7 3/4 (806)  | 2-9 3/4 (857)  | 2-11 3/4 (908) |
| RO (mm)         | 1-10 1/4 (565) | 2-2 1/4 (667)  | 2-6 1/4 (768)  | 2-8 1/4 (819)  | 2-10 1/4 (870) | 3-0 1/4 (921)  |
| FS (mm)         | 1-9 1/4 (540)  | 2-1 1/4 (641)  | 2-5 1/4 (743)  | 2-7 1/4 (794)  | 2-9 1/4 (845)  | 2-11 1/4 (895) |
| DLO (mm)        | 14 47/64 (347) | 18 47/64 (476) | 22 47/64 (577) | 24 47/64 (628) | 26 47/64 (679) | 28 47/64 (730) |
| 2-7 3/4 (806)   | UDHG2 1612     | UDHG2 2012     | UDHG2 2412     | UDHG2 2612     | UDHG2 2812     | UDHG2 3012     |
| 2-8 (813)       |                |                |                |                |                |                |
| 2-7 1/2 (800)   |                |                |                |                |                |                |
| 10 3/4 (273)    |                |                |                |                |                |                |
| 2-11 3/4 (908)  | UDHG2 1614     | UDHG2 2014     | UDHG2 2414     | UDHG2 2614     | UDHG2 2814     | UDHG2 3014     |
| 3-0 (914)       |                |                |                |                |                |                |
| 2-11 1/2 (902)  |                |                |                |                |                |                |
| 12 3/4 (324)    |                |                |                |                |                |                |
| 3-3 3/4 (1010)  | UDHG2 1616     | UDHG2 2016     | UDHG2 2416     | UDHG2 2616     | UDHG2 2816     | UDHG2 3016     |
| 3-4 (1016)      |                |                |                |                |                |                |
| 3-3 1/2 (1003)  |                |                |                |                |                |                |
| 14 3/4 (375)    |                |                |                |                |                |                |
| 3-7 3/4 (1111)  | UDHG2 1618     | UDHG2 2018     | UDHG2 2418     | UDHG2 2618     | UDHG2 2818     | UDHG2 3018     |
| 3-8 (1118)      |                |                |                |                |                |                |
| 3-7 1/2 (1105)  |                |                |                |                |                |                |
| 16 3/4 (425)    |                |                |                |                |                |                |
| 3-11 3/4 (1213) | UDHG2 1620     | UDHG2 2020     | UDHG2 2420     | UDHG2 2620     | UDHG2 2820     | UDHG2 3020     |
| 4-0 (1219)      |                |                |                |                |                |                |
| 3-11 1/2 (1207) |                |                |                |                |                |                |
| 18 3/4 (476)    |                |                |                |                |                |                |
| 4-3 3/4 (1314)  | UDHG2 1622     | UDHG2 2022     | UDHG2 2422     | UDHG2 2622     | UDHG2 2822     | UDHG2 3022     |
| 4-4 (1321)      |                |                |                |                |                |                |
| 4-3 1/2 (1308)  |                |                |                |                |                |                |
| 20 3/4 (527)    |                |                |                |                |                |                |
| 4-7 3/4 (1416)  | UDHG2 1624     | UDHG2 2024     | UDHG2 2424     | UDHG2 2624     | UDHG2 2824     | UDHG2 3024     |
| 4-8 (1422)      |                |                |                |                |                |                |
| 4-7 1/2 (1410)  |                |                |                |                |                |                |
| 22 3/4 (578)    |                |                |                |                |                |                |
| 4-11 3/4 (1518) | UDHG2 1626     | UDHG2 2026     | UDHG2 2426     | UDHG2 2626     | UDHG2 2826     | UDHG2 3026     |
| 5-0 (1524)      |                |                |                |                |                |                |
| 4-11 1/2 (1511) |                |                |                |                |                |                |
| 24 3/4 (629)    |                |                |                |                |                |                |
| 5-3 3/4 (1619)  | UDHG2 1628     | UDHG2 2028     | UDHG2 2428     | UDHG2 2628     | UDHG2 2828     | UDHG2 3028 E   |
| 5-4 (1626)      |                |                |                |                |                |                |
| 5-3 1/2 (1613)  |                |                |                |                |                |                |
| 26 3/4 (679)    |                |                |                |                |                |                |

## MULTIPLE ASSEMBLY CONVERSIONS

| ROUGH OPENING                    |                                | MASONRY OPENING WITHOUT BMC        |                               |
|----------------------------------|--------------------------------|------------------------------------|-------------------------------|
| Width                            | Height                         | Width                              | Height                        |
| Add all frame sizes plus 1" (25) | Add frame sizes plus 1/2" (13) | Add all frame sizes plus 1/2" (13) | Add frame sizes plus 1/4" (6) |

Ultimate Double Hung G2: UDHG2

### DOUBLE HUNG G2

|                 |                |                |                 |                 |                |                 |                 |
|-----------------|----------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|
| <b>MO (mm)</b>  | 3-1 3/4 (959)  | 3-5 3/4 (1060) | 3-9 3/4 (1162)  | 4-1 3/4 (1264)  | 4-5 3/4 (1365) | 4-11 3/4 (1518) | 5-5 3/4 (1670)  |
| <b>RO (mm)</b>  | 3-2 1/4 (972)  | 3-6 1/4 (1073) | 3-10 1/4 (1175) | 4-2 1/4 (1276)  | 4-6 1/4 (1378) | 5-0 1/4 (1530)  | 5-6 1/4 (1683)  |
| <b>FS (mm)</b>  | 3-1 1/4 (946)  | 3-5 1/4 (1048) | 3-9 1/4 (1149)  | 4-1 1/4 (1251)  | 4-5 1/4 (1353) | 4-11 1/4 (1505) | 5-5 1/4 (1657)  |
| <b>DLO (mm)</b> | 30 47/64 (781) | 34 47/64 (882) | 38 47/64 (984)  | 42 47/64 (1085) | 46 47/64 (984) | 52 47/64 (984)  | 58 47/64 (1492) |

|  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|
| 2-7 3/4 (806)<br>2-8 (813)<br>2-7 1/2 (800)<br>10 3/4 (273)      |  |  |  |  |  |  |  |
| 2-11 3/4 (908)<br>3-0 (914)<br>2-11 1/2 (902)<br>12 3/4 (324)    |  |  |  |  |  |  |  |
| 3-3 3/4 (1010)<br>3-4 (1016)<br>3-3 1/2 (1003)<br>14 3/4 (375)   |  |  |  |  |  |  |  |
| 3-7 3/4 (1111)<br>3-8 (1118)<br>3-7 1/2 (1105)<br>16 3/4 (425)   |  |  |  |  |  |  |  |
| 3-11 3/4 (1213)<br>4-0 (1219)<br>3-11 1/2 (1207)<br>18 3/4 (476) |  |  |  |  |  |  |  |
| 4-3 3/4 (1314)<br>4-4 (1321)<br>4-3 1/2 (1308)<br>20 3/4 (527)   |  |  |  |  |  |  |  |
| 4-7 3/4 (1416)<br>4-8 (1422)<br>4-7 1/2 (1410)<br>22 3/4 (578)   |  |  |  |  |  |  |  |
| 4-11 3/4 (1518)<br>5-0 (1524)<br>4-11 1/2 (1511)<br>24 3/4 (629) |  |  |  |  |  |  |  |
| 5-3 3/4 (1619)<br>5-4 (1626)<br>5-3 1/2 (1613)<br>26 3/4 (679)   |  |  |  |  |  |  |  |

### DOUBLE HUNG G2

|                 |                |                |                |                |                |                |
|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>MO (mm)</b>  | 1-9 3/4 (552)  | 2-1 3/4 (654)  | 2-5 3/4 (756)  | 2-7 3/4 (806)  | 2-9 3/4 (857)  | 2-11 3/4 (908) |
| <b>RO (mm)</b>  | 1-10 1/4 (565) | 2-2 1/4 (667)  | 2-6 1/4 (768)  | 2-8 1/4 (819)  | 2-10 1/4 (870) | 3-0 1/4 (921)  |
| <b>FS (mm)</b>  | 1-9 1/4 (540)  | 2-1 1/4 (641)  | 2-5 1/4 (743)  | 2-7 1/4 (794)  | 2-9 1/4 (845)  | 2-11 1/4 (895) |
| <b>DLO (mm)</b> | 14 47/64 (347) | 18 47/64 (476) | 22 47/64 (577) | 24 47/64 (628) | 26 47/64 (679) | 28 47/64 (730) |

|  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|
| 5-7 3/4 (1721)<br>5-8 (1727)<br>5-7 1/2 (1715)<br>28 3/4 (730)   |  |  |  |  |  |  |
| 5-11 3/4 (1822)<br>6-0 (1829)<br>5-11 1/2 (1816)<br>30 3/4 (781) |  |  |  |  |  |  |
| 6-3 3/4 (1924)<br>6-4 (1930)<br>6-3 1/2 (1918)<br>32 3/4 (832)   |  |  |  |  |  |  |
| 6-7 3/4 (2026)<br>6-8 (2032)<br>6-7 1/2 (2019)<br>34 3/4 (883)   |  |  |  |  |  |  |
| 7-3 3/4 (2229)<br>7-4 (2235)<br>7-3 1/2 (2223)<br>36 3/4 (934)   |  |  |  |  |  |  |
| 7-7 3/4 (2330)<br>7-8 (2337)<br>7-7 1/2 (2324)<br>40 3/4 (1035)  |  |  |  |  |  |  |

Details and Elevations not to scale.  
 E These windows meet national Egress codes for fire evacuation.  
 Local codes may differ.  
 Please consult your local Marvin representative for more information.  
 For further details and drawings visit the 'Tools and Documents'  
 section at Marvin.com.

## DOUBLE HUNG G2

|                 |                |                |                 |                 |                |                 |                 |
|-----------------|----------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|
| <b>MO (mm)</b>  | 3-1 3/4 (959)  | 3-5 3/4 (1060) | 3-9 3/4 (1162)  | 4-1 3/4 (1264)  | 4-5 3/4 (1365) | 4-11 3/4 (1518) | 5-5 3/4 (1670)  |
| <b>RO (mm)</b>  | 3-2 1/4 (972)  | 3-6 1/4 (1073) | 3-10 1/4 (1175) | 4-2 1/4 (1276)  | 4-6 1/4 (1378) | 5-0 1/4 (1530)  | 5-6 1/4 (1683)  |
| <b>FS (mm)</b>  | 3-1 1/4 (946)  | 3-5 1/4 (1048) | 3-9 1/4 (1149)  | 4-1 1/4 (1251)  | 4-5 1/4 (1353) | 4-11 1/4 (1505) | 5-5 1/4 (1657)  |
| <b>DLO (mm)</b> | 30 47/64 (781) | 34 47/64 (882) | 38 47/64 (984)  | 42 47/64 (1085) | 46 47/64 (984) | 52 47/64 (984)  | 58 47/64 (1492) |

|  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|
| 5-7 3/4 (1721)<br>5-8 (1727)<br>5-7 1/2 (1715)<br>28 3/4 (730)   |  |  |  |  |  |  |  |
| 5-11 3/4 (1822)<br>6-0 (1829)<br>5-11 1/2 (1816)<br>30 3/4 (781) |  |  |  |  |  |  |  |
| 6-3 3/4 (1924)<br>6-4 (1930)<br>6-3 1/2 (1918)<br>32 3/4 (832)   |  |  |  |  |  |  |  |
| 6-7 3/4 (2026)<br>6-8 (2032)<br>6-7 1/2 (2019)<br>34 3/4 (883)   |  |  |  |  |  |  |  |
| 7-3 3/4 (2228)<br>7-4 (2235)<br>7-3 1/2 (2223)<br>38 3/4 (984)   |  |  |  |  |  |  |  |
| 7-7 3/4 (2330)<br>7-8 (2337)<br>7-7 1/2 (2324)<br>40 3/4 (1035)  |  |  |  |  |  |  |  |

Details and Elevations not to scale.

E These windows meet national Egress codes for fire evacuation. Local codes may differ.

Please consult your local Marvin representative for more information.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

## DOUBLE HUNG G2

|                 |                |                |                |                |                |                |
|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>MO (mm)</b>  | 1-9 3/4 (552)  | 2-1 3/4 (654)  | 2-5 3/4 (756)  | 2-7 3/4 (806)  | 2-9 3/4 (857)  | 2-11 3/4 (908) |
| <b>RO (mm)</b>  | 1-10 1/4 (565) | 2-2 1/4 (667)  | 2-6 1/4 (768)  | 2-8 1/4 (819)  | 2-10 1/4 (870) | 3-0 1/4 (921)  |
| <b>FS (mm)</b>  | 1-9 1/4 (540)  | 2-1 1/4 (641)  | 2-5 1/4 (743)  | 2-7 1/4 (794)  | 2-9 1/4 (845)  | 2-11 1/4 (895) |
| <b>DLO (mm)</b> | 14 47/64 (347) | 18 47/64 (476) | 22 47/64 (577) | 24 47/64 (628) | 26 47/64 (679) | 28 47/64 (730) |

|  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|
| 8-11 3/4 (2737)<br>9-0 (2743)<br>8-11 1/2 (2731)<br>48 3/4 (1238)  |  |  |  |  |  |  |
| 9-11 3/4 (3042)<br>10-0 (3048)<br>9-11 1/2 (3035)<br>54 3/4 (1391) |  |  |  |  |  |  |
| 10-7 3/4 (3245)<br>10-8 (3251)<br>10-7 1/2 (3239)<br>58 3/4 (1492) |  |  |  |  |  |  |

### COTTAGE STYLE\*

|                 |                |                |                |                |                |
|-----------------|----------------|----------------|----------------|----------------|----------------|
| <b>MO (mm)</b>  | 1-9 3/4 (552)  | 2-1 3/4 (654)  | 2-5 3/4 (756)  | 2-7 3/4 (806)  | 2-9 3/4 (857)  |
| <b>RO (mm)</b>  | 1-10 1/4 (565) | 2-2 1/4 (667)  | 2-6 1/4 (768)  | 2-8 1/4 (819)  | 2-10 1/4 (870) |
| <b>FS (mm)</b>  | 1-9 1/4 (540)  | 2-1 1/4 (641)  | 2-5 1/4 (743)  | 2-7 1/4 (794)  | 2-9 1/4 (845)  |
| <b>DLO (mm)</b> | 14 47/64 (347) | 18 47/64 (476) | 22 47/64 (577) | 24 47/64 (628) | 26 47/64 (679) |

|   |  |  |  |  |  |
|---|--|--|--|--|--|
| 5-7 3/4 (1721)<br>5-8 (1727)<br>5-7 1/2 (1715)<br>22 3/4 (578)/34 3/4 (883) |  |  |  |  |  |
|---|--|--|--|--|--|

\* Cottage Formula:

1. Select the standard size double hung that will fit the rough opening
2. Subtract 7 1/2" (191) from the frame size height to get total glass height
3. Multiply the total glass height by the desired top sash ratio, this is the top sash glass height
4. Subtract the top sash height from the total glass height, this is the bottom sash glass height

### EXAMPLE:

1. UDHG2 with a 0.400 top sash ratio (<sup>2</sup>/<sub>5</sub> - <sup>3</sup>/<sub>5</sub>) cottage style. If the rough opening is 2'-2 1/4" x 4' (RO for a CUDH 2020) the frame size will be 25 1/4" x 47 1/2"
2. 47 1/2" - 7 1/2" = 40"
3. 40" multiplied by 0.400 (<sup>2</sup>/<sub>5</sub>) = 16"
4. 40" - 16" = 24"
5. The top sash will be a 2016 and the bottom sash will be a 2024. The call number for the example is: UDHG2 2016-24

**DOUBLE HUNG G2**

|                 |                |                |                 |                 |                |                 |                 |
|-----------------|----------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|
| <b>MO (mm)</b>  | 3-1 3/4 (959)  | 3-5 3/4 (1060) | 3-9 3/4 (1162)  | 4-1 3/4 (1264)  | 4-5 3/4 (1365) | 4-11 3/4 (1518) | 5-5 3/4 (1670)  |
| <b>RO (mm)</b>  | 3-2 1/4 (972)  | 3-6 1/4 (1073) | 3-10 1/4 (1175) | 4-2 1/4 (1276)  | 4-6 1/4 (1378) | 5-0 1/4 (1530)  | 5-6 1/4 (1683)  |
| <b>FS (mm)</b>  | 3-1 1/4 (946)  | 3-5 1/4 (1048) | 3-9 1/4 (1149)  | 4-1 1/4 (1251)  | 4-5 1/4 (1353) | 4-11 1/4 (1505) | 5-5 1/4 (1657)  |
| <b>DLO (mm)</b> | 30 47/64 (781) | 34 47/64 (882) | 38 47/64 (984)  | 42 47/64 (1085) | 46 47/64 (984) | 52 47/64 (984)  | 58 47/64 (1492) |

|  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|
| 8-11 3/4 (2737)<br>9-0 (2743)<br>8-11 1/2 (2731)<br>48 3/4 (1238)  |  |  |  |  |  |  |  |
| 9-11 3/4 (3042)<br>10-0 (3048)<br>9-11 1/2 (3035)<br>54 3/4 (1391) |  |  |  |  |  |  |  |
| 10-7 3/4 (3245)<br>10-8 (3251)<br>10-7 1/2 (3239)<br>58 3/4 (1492) |  |  |  |  |  |  |  |

**COTTAGE STYLE\***

|                 |                |                |                |                 |
|-----------------|----------------|----------------|----------------|-----------------|
| <b>MO (mm)</b>  | 2-11 3/4 (908) | 3-1 3/4 (959)  | 3-5 3/4 (1060) | 3-9 3/4 (1162)  |
| <b>RO (mm)</b>  | 3-0 1/4 (921)  | 3-2 1/4 (972)  | 3-6 1/4 (1073) | 3-10 1/4 (1175) |
| <b>FS (mm)</b>  | 2-11 1/4 (895) | 3-1 1/4 (946)  | 3-5 1/4 (1048) | 3-9 1/4 (1149)  |
| <b>DLO (mm)</b> | 28 47/64 (730) | 30 47/64 (781) | 34 47/64 (882) | 38 47/64 (984)  |

|   |  |  |  |  |
|---|--|--|--|--|
| 5-7 3/4 (1721)<br>5-8 (1727)<br>5-7 1/2 (1715)<br>22 3/4 (578)/34 3/4 (883) |  |  |  |  |
|---|--|--|--|--|

Details and Elevations not to scale.

E These windows meet national Egress codes for fire evacuation. Local codes may differ.

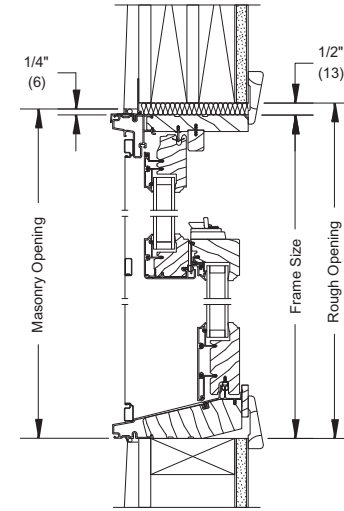
\* Cottage Formula:

1. Select the standard size double hung that will fit the rough opening
2. Subtract 7 1/2" (191) from the frame size height to get total glass height
3. Multiply the total glass height by the desired top sash ratio, this is the top sash glass height
4. Subtract the top sash height from the total glass height, this is the bottom sash glass height

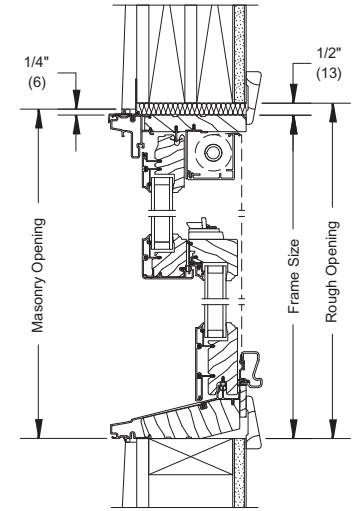
Please consult your local Marvin representative for more information.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

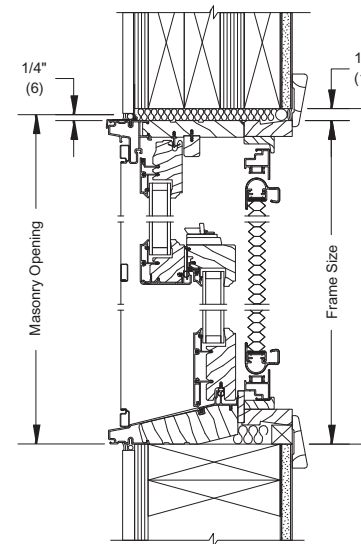
**DOUBLE HUNG G2**



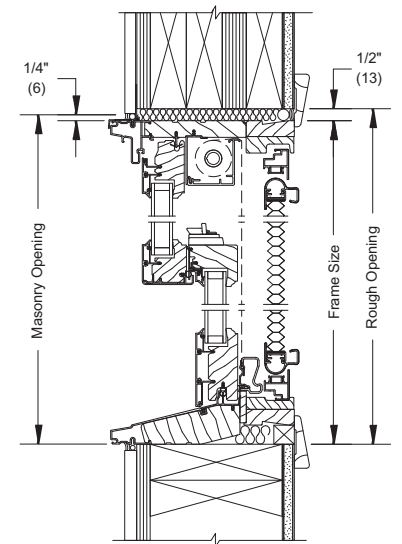
HEAD JAMB AND SILL - OPERATOR



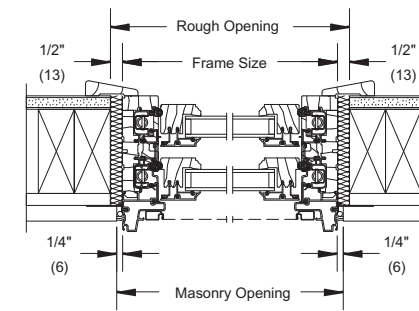
HEAD JAMB AND SILL - OPERATOR WITH RETRACTABLE SCREEN



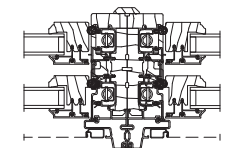
HEAD JAMB AND SILL - OPERATOR WITH INTERIOR SHADE



HEAD JAMB AND SILL - OPERATOR WITH INTERIOR SHADE AND RETRACTABLE SCREEN



JAMB - OPERATOR



VERTICAL MULLION OPERATOR

### DOUBLE HUNG TRANSOM G2

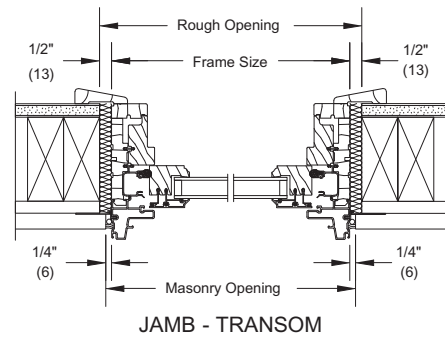
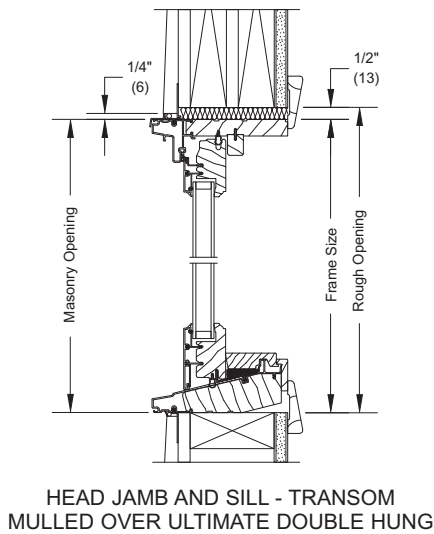
|                 |                |                |                |                |                |
|-----------------|----------------|----------------|----------------|----------------|----------------|
| <b>MO (mm)</b>  | 1-9 3/4 (552)  | 2-1 3/4 (654)  | 2-5 3/4 (756)  | 2-7 3/4 (806)  | 2-9 3/4 (857)  |
| <b>RO (mm)</b>  | 1-10 1/4 (565) | 2-2 1/4 (667)  | 2-6 1/4 (768)  | 2-8 1/4 (819)  | 2-10 1/4 (870) |
| <b>FS (mm)</b>  | 1-9 1/4 (540)  | 2-1 1/4 (641)  | 2-5 1/4 (743)  | 2-7 1/4 (794)  | 2-9 1/4 (845)  |
| <b>DLO (mm)</b> | 14 47/64 (347) | 18 47/64 (476) | 22 47/64 (577) | 24 47/64 (628) | 26 47/64 (679) |

|                 |              |              |              |              |              |
|-----------------|--------------|--------------|--------------|--------------|--------------|
| 1-7 15/16 (506) | UDHTRG2 1612 | UDHTRG2 2012 | UDHTRG2 2412 | UDHTRG2 2612 | UDHTRG2 2812 |
| 1-8 3/16 (513)  |              |              |              |              |              |
| 1-7 11/16 (500) |              |              |              |              |              |
| 12 3/4 (324)    |              |              |              |              |              |
| 2-3 15/16 (710) | UDHTRG2 1620 | UDHTRG2 2020 | UDHTRG2 2420 | UDHTRG2 2620 | UDHTRG2 2820 |
| 2-4 3/16 (716)  |              |              |              |              |              |
| 2-3 11/16 (703) |              |              |              |              |              |
| 20 3/4 (527)    |              |              |              |              |              |

|                 |                |                |                |                 |                 |
|-----------------|----------------|----------------|----------------|-----------------|-----------------|
| <b>MO (mm)</b>  | 2-11 3/4 (908) | 3-1 3/4 (959)  | 3-5 3/4 (1060) | 3-9 3/4 (1162)  | 4-11 3/4 (1518) |
| <b>RO (mm)</b>  | 3-0 1/4 (921)  | 3-2 1/4 (972)  | 3-6 1/4 (1073) | 3-10 1/4 (1175) | 5-0 1/4 (1530)  |
| <b>FS (mm)</b>  | 2-11 1/4 (895) | 3-1 1/4 (946)  | 3-5 1/4 (1048) | 3-9 1/4 (1149)  | 4-11 1/4 (1505) |
| <b>DLO (mm)</b> | 28 47/64 (730) | 30 47/64 (781) | 34 47/64 (882) | 38 47/64 (984)  | 52 47/64 (1339) |

|                 |              |              |              |              |              |
|-----------------|--------------|--------------|--------------|--------------|--------------|
| 1-7 15/16 (506) | UDHTRG2 3012 | UDHTRG2 3212 | UDHTRG2 3612 | UDHTRG2 4012 | UDHTRG2 5412 |
| 1-8 3/16 (513)  |              |              |              |              |              |
| 1-7 11/16 (500) |              |              |              |              |              |
| 12 3/4 (324)    |              |              |              |              |              |
| 2-3 15/16 (710) | UDHTRG2 3020 | UDHTRG2 3220 | UDHTRG2 3620 | UDHTRG2 4020 | UDHTRG2 5420 |
| 2-4 3/16 (716)  |              |              |              |              |              |
| 2-3 11/16 (703) |              |              |              |              |              |
| 20 3/4 (527)    |              |              |              |              |              |

### CONSTRUCTION DETAILS



Details and Elevations not to scale.  
E These windows meet national Egress codes for fire evacuation. Local codes may differ.

Please consult your local Marvin representative for masonry openings that include casings and subsills.  
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

### DOUBLE HUNG PICTURE G2

|                 |                |                 |                 |                 |                 |
|-----------------|----------------|-----------------|-----------------|-----------------|-----------------|
| <b>MO (mm)</b>  | 3-5 3/4 (1060) | 4-1 3/4 (1264)  | 4-5 3/4 (1365)  | 5-1 3/4 (1568)  | 5-9 3/4 (1772)  |
| <b>RO (mm)</b>  | 3-6 1/4 (1073) | 4-2 1/4 (1276)  | 4-6 1/4 (1378)  | 5-2 1/4 (1581)  | 5-10 1/4 (1784) |
| <b>FS (mm)</b>  | 3-5 1/4 (1048) | 4-1 1/4 (1251)  | 4-5 1/4 (1353)  | 5-1 1/4 (1556)  | 5-9 1/4 (1759)  |
| <b>DLO (mm)</b> | 34 47/64 (882) | 42 47/64 (1085) | 46 47/64 (1187) | 54 47/64 (1390) | 62 47/64 (1594) |

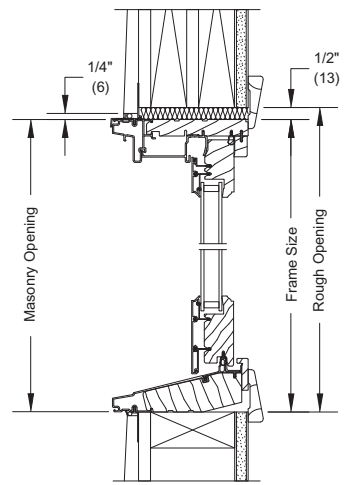
|                 |             |             |             |             |             |
|-----------------|-------------|-------------|-------------|-------------|-------------|
| 3-3 3/4 (1010)  | UDHPG2 4038 | UDHPG2 4838 | UDHPG2 5238 | UDHPG2 6038 | UDHPG2 6838 |
| 3-4 (1016)      |             |             |             |             |             |
| 3-3 1/2 (1003)  |             |             |             |             |             |
| 31 27/64 (798)  |             |             |             |             |             |
| 3-7 3/4 (1111)  | UDHPG2 4042 | UDHPG2 4842 | UDHPG2 5242 | UDHPG2 6042 | UDHPG2 6842 |
| 3-8 (1118)      |             |             |             |             |             |
| 3-7 1/2 (1105)  |             |             |             |             |             |
| 35 27/64 (900)  |             |             |             |             |             |
| 4-0 5/8 (1235)  | UDHPG2 4046 | UDHPG2 4846 | UDHPG2 5246 | UDHPG2 6046 | UDHPG2 6846 |
| 4-0 (1219)      |             |             |             |             |             |
| 4-0 (1219)      |             |             |             |             |             |
| 3-1 1/2 (1207)  |             |             |             |             |             |
| 39 27/64 (1001) |             |             |             |             |             |
| 4-4 5/8 (1337)  | UDHPG2 4050 | UDHPG2 4850 | UDHPG2 5250 | UDHPG2 6050 | UDHPG2 6850 |
| 4-4 (1321)      |             |             |             |             |             |
| 4-3 1/2 (1308)  |             |             |             |             |             |
| 43 27/64 (1103) |             |             |             |             |             |
| 4-8 5/8 (1438)  | UDHPG2 4054 | UDHPG2 4854 | UDHPG2 5254 | UDHPG2 6054 | UDHPG2 6854 |
| 4-8 (1422)      |             |             |             |             |             |
| 4-7 1/2 (1410)  |             |             |             |             |             |
| 47 27/64 (1204) |             |             |             |             |             |
| 5-0 5/8 (1540)  | UDHPG2 4058 | UDHPG2 4858 | UDHPG2 5258 | UDHPG2 6058 | UDHPG2 6858 |
| 5-0 (1524)      |             |             |             |             |             |
| 4-11 1/2 (1511) |             |             |             |             |             |
| 51 27/64 (1306) |             |             |             |             |             |
| 5-4 5/8 (1641)  | UDHPG2 4062 | UDHPG2 4862 | UDHPG2 5262 | UDHPG2 6062 | UDHPG2 6862 |
| 5-4 (1626)      |             |             |             |             |             |
| 5-3 1/2 (1613)  |             |             |             |             |             |
| 55 27/64 (1408) |             |             |             |             |             |
| 5-8 5/8 (1743)  | UDHPG2 4066 | UDHPG2 4866 | UDHPG2 5266 | UDHPG2 6066 | UDHPG2 6866 |
| 5-8 (1727)      |             |             |             |             |             |
| 5-7 1/2 (1715)  |             |             |             |             |             |
| 59 27/64 (1509) |             |             |             |             |             |
| 6-0 5/8 (1845)  | UDHPG2 4070 | UDHPG2 4870 | UDHPG2 5270 | UDHPG2 6070 | UDHPG2 6870 |
| 6-0 (1829)      |             |             |             |             |             |
| 5-11 1/2 (1816) |             |             |             |             |             |
| 63 27/64 (1611) |             |             |             |             |             |
| 6-4 5/8 (1946)  | UDHPG2 4074 | UDHPG2 4874 | UDHPG2 5274 | UDHPG2 6074 | UDHPG2 6874 |
| 6-4 (1930)      |             |             |             |             |             |
| 6-3 1/2 (1918)  |             |             |             |             |             |
| 67 27/64 (1712) |             |             |             |             |             |

Ultimate Double Hung Transom G2: UDHTRG2  
Ultimate Double Hung Picture G2: UDHPG2

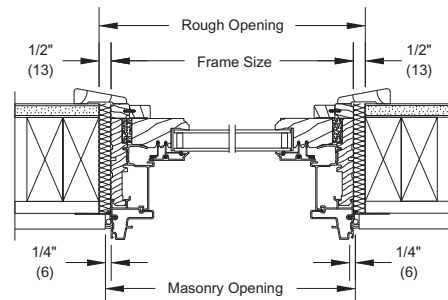
### DOUBLE HUNG PICTURE G2

| MO (mm)         | 3-5 3/4 (1060) | 4-1 3/4 (1264)  | 4-5 3/4 (1365)  | 5-1 3/4 (1568)  | 5-9 3/4 (1772)  |
|-----------------|----------------|-----------------|-----------------|-----------------|-----------------|
| RO (mm)         | 3-6 1/4 (1073) | 4-2 1/4 (1276)  | 4-6 1/4 (1378)  | 5-2 1/4 (1581)  | 5-10 1/4 (1784) |
| FS (mm)         | 3-5 1/4 (1048) | 4-1 1/4 (1251)  | 4-5 1/4 (1353)  | 5-1 1/4 (1556)  | 5-9 1/4 (1759)  |
| DLO (mm)        | 34 47/64 (882) | 42 47/64 (1085) | 46 47/64 (1187) | 54 47/64 (1390) | 62 47/64 (1594) |
| 6-8 5/8 (2048)  |                |                 |                 |                 |                 |
| 6-8 (2032)      |                |                 |                 |                 |                 |
| 6-7 1/2 (2019)  |                |                 |                 |                 |                 |
| 71 27/64 (1814) |                |                 |                 |                 |                 |
| 7-4 5/8 (2251)  |                |                 |                 |                 |                 |
| 7-4 (2235)      |                |                 |                 |                 |                 |
| 7-3 1/2 (2223)  |                |                 |                 |                 |                 |
| 79 27/64 (2017) |                |                 |                 |                 |                 |
| 7-8 5/8 (2353)  |                |                 |                 |                 |                 |
| 7-8 (2337)      |                |                 |                 |                 |                 |
| 7-7 1/2 (2324)  |                |                 |                 |                 |                 |
| 83 27/64 (2119) |                |                 |                 |                 |                 |

### CONSTRUCTION DETAILS



HEAD JAMB AND SILL - PICTURE



JAMB - PICTURE

Details and Elevations not to scale.  
E These windows meet national Egress codes for fire evacuation. Local codes may differ.

Please consult your local Marvin representative for masonry openings that include casings and subsills.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

### DOUBLE HUNG ROUND TOP G2

#### RT6 EYEBROW ABOVE SPRINGLINE STANDARD SIZES OPERATORS

| RO (mm)           | 1-10 1/4 (565) | 2-2 1/4 (667) | 2-6 1/4 (768) | 2-8 1/4 (819) | 2-10 1/4 (870) | 3-0 1/4 (921) |
|-------------------|----------------|---------------|---------------|---------------|----------------|---------------|
| RO Rad. (mm)      | 2-0 1/2 (622)  | 2-0 1/2 (622) | 2-0 1/2 (622) | 2-6 1/2 (775) | 2-6 1/2 (775)  | 2-6 1/2 (775) |
| 2-10 31/64 (876)  |                |               |               |               |                |               |
| 2-11 19/32 (904)  |                |               |               |               |                |               |
| 2-7 13/16 (808)   |                |               |               |               |                |               |
| 3-2 31/64 (977)   |                |               |               |               |                |               |
| 3-3 19/32 (1006)  |                |               |               |               |                |               |
| 2-11 29/32 (909)  |                |               |               |               |                |               |
| 3-6 31/64 (1079)  |                |               |               |               |                |               |
| 3-3 13/16 (1011)  |                |               |               |               |                |               |
| 3-7 19/32 (1107)  |                |               |               |               |                |               |
| 3-3 29/32 (1010)  |                |               |               |               |                |               |
| 3-10 31/64 (1181) |                |               |               |               |                |               |
| 3-7 13/16 (1113)  |                |               |               |               |                |               |
| 3-11 19/32 (1209) |                |               |               |               |                |               |
| 3-7 29/32 (1112)  |                |               |               |               |                |               |
| 4-2 31/64 (1282)  |                |               |               |               |                |               |
| 4-3 19/32 (1310)  |                |               |               |               |                |               |
| 3-11 29/32 (1214) |                |               |               |               |                |               |
| 4-4 31/64 (1345)  |                |               |               |               |                |               |
| 4-3 13/16 (1316)  |                |               |               |               |                |               |
| 4-8 31/32 (1447)  |                |               |               |               |                |               |
| 4-3 3/4 (1314)    |                |               |               |               |                |               |
| 4-10 31/64 (1485) |                |               |               |               |                |               |
| 4-7 13/16 (1418)  |                |               |               |               |                |               |
| 4-11 19/32 (1514) |                |               |               |               |                |               |
| 4-7 29/32 (1417)  |                |               |               |               |                |               |
| 5-2 31/64 (1587)  |                |               |               |               |                |               |
| 4-11 13/16 (1519) |                |               |               |               |                |               |
| 5-3 19/32 (1615)  |                |               |               |               |                |               |
| 4-11 29/32 (1518) |                |               |               |               |                |               |
| 5-6 31/64 (1689)  |                |               |               |               |                |               |
| 5-3 13/16 (1621)  |                |               |               |               |                |               |
| 5-7 19/32 (1717)  |                |               |               |               |                |               |
| 5-3 29/32 (1620)  |                |               |               |               |                |               |
| 6-0 31/32 (1752)  |                |               |               |               |                |               |
| 5-8 25/64 (1839)  |                |               |               |               |                |               |
| 5-3 3/4 (1619)    |                |               |               |               |                |               |
| 6-0 25/64 (1853)  |                |               |               |               |                |               |
| 5-7 3/4 (1721)    |                |               |               |               |                |               |
| 6-0 25/64 (1839)  |                |               |               |               |                |               |
| 5-7 25/32 (1722)  |                |               |               |               |                |               |
| 6-1 1/32 (1855)   |                |               |               |               |                |               |
| 5-9 1/32 (1753)   |                |               |               |               |                |               |
| 5-3 49/64 (1620)  |                |               |               |               |                |               |
| 6-1 1/32 (1873)   |                |               |               |               |                |               |
| 5-7 3/4 (1721)    |                |               |               |               |                |               |
| 6-1 23/32 (1873)  |                |               |               |               |                |               |
| 5-3 49/64 (1620)  |                |               |               |               |                |               |
| 6-1 23/32 (1873)  |                |               |               |               |                |               |
| 5-3 49/64 (1620)  |                |               |               |               |                |               |
| 6-1 23/32 (1873)  |                |               |               |               |                |               |
| 5-3 49/64 (1620)  |                |               |               |               |                |               |
| 6-1 23/32 (1873)  |                |               |               |               |                |               |
| 5-3 49/64 (1620)  |                |               |               |               |                |               |

# DOUBLE HUNG ROUND TOP G2

RT6 EYEBROW ABOVE SPRINGLINE STANDARD SIZES OPERATORS

| RO (mm)                  | 3-2 1/4 (972)                         | 3-6 1/4 (1073)                        | 3-10 1/4 (1175)                      | 4-2 1/4 (1276)                      | 4-6 1/4 (1378)                       | 5-0 1/4 (1530)                        |
|--------------------------|---------------------------------------|---------------------------------------|--------------------------------------|-------------------------------------|--------------------------------------|---------------------------------------|
| RO Rad. (mm)             | 3-4 1/2 (1029)                        | 3-4 1/2 (1029)                        | 3-4 1/2 (1029)                       | 3-4 1/2 (1029)                      | 4-6 1/2 (1384)                       | 4-6 1/2 (1384)                        |
| RO (mm)<br>RO Spln. (mm) | 3-0 19/32 (930)<br>2-7 5/16 (808)     | 3-1 47/64 (958)<br>2-7 25/32 (807)    | 3-3 1/64 (991)<br>2-7 49/64 (807)    | 3-4 31/64 (1028)<br>2-7 3/4 (806)   | 3-3 1/64 (991)<br>2-7 51/64 (807)    | 3-4 55/64 (1038)<br>2-7 49/64 (807)   |
|                          | UDHRTG2 3212                          | UDHRTG2 3612                          | UDHRTG2 4012                         | UDHRTG2 4412                        | UDHRTG2 4812                         | UDHRTG2 5412                          |
|                          | 3-4 19/32 (1031)<br>2-11 5/16 (909)   | 3-5 47/64 (1060)<br>2-11 25/32 (909)  | 3-7 1/64 (1093)<br>2-11 49/64 (908)  | 3-8 31/64 (1130)<br>2-11 3/4 (908)  | 3-7 1/64 (1093)<br>2-11 51/64 (909)  | 3-8 55/64 (1139)<br>2-11 49/64 (909)  |
|                          | UDHRTG2 3214                          | UDHRTG2 3614                          | UDHRTG2 4014                         | UDHRTG2 4414                        | UDHRTG2 4814                         | UDHRTG2 5414                          |
|                          | 3-8 19/32 (1133)<br>3-3 51/64 (1011)  | 3-9 47/64 (1161)<br>3-3 25/32 (1010)  | 3-11 1/64 (1194)<br>3-3 49/64 (1010) | 4-0 31/64 (1231)<br>3-3 3/4 (1009)  | 3-11 1/64 (1194)<br>3-3 51/64 (1011) | 4-0 55/64 (1241)<br>3-3 49/64 (1010)  |
|                          | UDHRTG2 3216                          | UDHRTG2 3616                          | UDHRTG2 4016                         | UDHRTG2 4416                        | UDHRTG2 4816                         | UDHRTG2 5416                          |
|                          | 4-0 19/32 (1234)<br>3-7 51/64 (1113)  | 4-1 47/64 (1263)<br>3-7 25/32 (1112)  | 4-3 1/64 (1296)<br>3-7 49/64 (1112)  | 4-4 31/64 (1333)<br>3-7 3/4 (1111)  | 4-3 1/64 (1296)<br>3-7 51/64 (1112)  | 4-3 49/64 (1315)<br>3-7 49/64 (1112)  |
|                          | UDHRTG2 3218                          | UDHRTG2 3618                          | UDHRTG2 4018                         | UDHRTG2 4418                        | UDHRTG2 4818                         | UDHRTG2 5418                          |
|                          | 4-4 19/32 (1336)<br>3-11 51/64 (1214) | 4-5 47/64 (1365)<br>3-11 25/32 (1214) | 4-7 1/64 (1397)<br>3-11 49/64 (1213) | 4-8 31/64 (1435)<br>3-11 3/4 (1213) | 4-7 1/64 (1398)<br>3-11 51/64 (1214) | 4-8 55/64 (1444)<br>3-11 49/64 (1213) |
|                          | UDHRTG2 3220                          | UDHRTG2 3620                          | UDHRTG2 4020                         | UDHRTG2 4420                        | UDHRTG2 4820                         | UDHRTG2 5420                          |
|                          | 4-8 19/32 (1438)<br>4-3 51/64 (1316)  | 4-9 47/64 (1466)<br>4-3 25/32 (1315)  | 4-11 1/64 (1499)<br>4-3 49/64 (1315) | 5-0 31/64 (1536)<br>4-3 3/4 (1314)  | 4-11 1/64 (1499)<br>4-3 51/64 (1315) | 5-0 55/64 (1546)<br>4-3 49/64 (1315)  |
|                          | UDHRTG2 3222                          | UDHRTG2 3622                          | UDHRTG2 4022                         | UDHRTG2 4422                        | UDHRTG2 4822                         | UDHRTG2 5422                          |
|                          | 5-0 19/32 (1539)<br>4-7 51/64 (1417)  | 5-1 47/64 (1568)<br>4-7 25/32 (1417)  | 5-3 1/64 (1601)<br>4-7 49/64 (1416)  | 5-4 31/64 (1638)<br>4-7 3/4 (1416)  | 4-3 51/64 (1315)<br>4-7 51/64 (1417) | 5-4 55/64 (1647)<br>4-7 49/64 (1417)  |
|                          | UDHRTG2 3224                          | UDHRTG2 3624                          | UDHRTG2 4024                         | UDHRTG2 4424                        | UDHRTG2 4824                         | UDHRTG2 5424                          |
|                          | 5-4 19/32 (1641)<br>4-11 51/64 (1519) | 5-5 47/64 (1669)<br>4-11 25/32 (1518) | 5-7 1/64 (1702)<br>4-11 49/64 (1518) | 5-8 31/64 (1739)<br>4-11 3/4 (1517) | 5-7 1/64 (1702)<br>4-11 51/64 (1519) | 5-8 55/64 (1749)<br>4-11 49/64 (1518) |
|                          | UDHRTG2 3226 E                        | UDHRTG2 3626 E                        | UDHRTG2 4026 E                       | UDHRTG2 4426 E                      | UDHRTG2 4826 E                       | UDHRTG2 5426 E                        |
|                          | 5-8 19/32 (1742)<br>5-3 51/64 (1621)  | 5-9 47/64 (1771)<br>5-3 25/32 (1620)  | 5-11 1/64 (1804)<br>5-3 49/64 (1620) | 6-0 31/64 (1841)<br>5-3 3/4 (1619)  | 5-11 1/64 (1804)<br>5-3 51/64 (1620) | 6-0 55/64 (1850)<br>5-3 49/64 (1620)  |
|                          | UDHRTG2 3228 E                        | UDHRTG2 3628 E                        | UDHRTG2 4028 E                       | UDHRTG2 4428 E                      | UDHRTG2 4828 E                       | UDHRTG2 5428 E                        |
|                          | 6-0 19/32 (1844)<br>5-7 51/64 (1722)  | 6-1 47/64 (1873)<br>5-7 25/32 (1722)  | 6-3 1/64 (1906)<br>5-7 49/64 (1721)  | 6-4 31/64 (1943)<br>5-7 3/4 (1721)  | 6-3 1/64 (1906)<br>5-7 51/64 (1722)  | 6-4 55/64 (1952)<br>5-7 49/64 (1721)  |
|                          | UDHRTG2 3230 E                        | UDHRTG2 3630 E                        | UDHRTG2 4030 E                       | UDHRTG2 4430 E                      | UDHRTG2 4830 E                       | UDHRTG2 5430 E                        |

# DOUBLE HUNG ROUND TOP G2

RT6 EYEBROW ABOVE SPRINGLINE STANDARD SIZES OPERATORS

| RO (mm)                  | 1-10 1/4 (565)                        | 2-2 1/4 (667)                         | 2-6 1/4 (768)                       | 2-8 1/4 (819)                         | 2-10 1/4 (870)                       | 3-0 1/4 (921)                       |
|--------------------------|---------------------------------------|---------------------------------------|-------------------------------------|---------------------------------------|--------------------------------------|-------------------------------------|
| RO Rad. (mm)             | 2-0 1/2 (622)                         | 2-0 1/2 (622)                         | 2-0 1/2 (622)                       | 2-6 1/2 (775)                         | 2-6 1/2 (775)                        | 2-6 1/2 (775)                       |
| RO (mm)<br>RO Spln. (mm) | 6-2 31/64 (1892)<br>5-11 13/16 (1824) | 6-3 19/32 (1920)<br>5-11 25/32 (1823) | 6-4 31/32 (1955)<br>5-11 3/4 (1822) | 6-4 25/64 (1940)<br>5-11 25/32 (1823) | 6-5 1/32 (1957)<br>5-11 49/64 (1823) | 6-5 23/32 (1974)<br>5-11 3/4 (1823) |
|                          | UDHRTG2 1632                          | UDHRTG2 2032                          | UDHRTG2 2432                        | UDHRTG2 2632 E                        | UDHRTG2 2832 E                       | UDHRTG2 3032 E                      |
|                          | 6-6 31/64 (1993)<br>6-3 13/16 (1926)  | 6-7 19/32 (2022)<br>6-3 25/32 (1925)  | 6-8 31/32 (2057)<br>6-3 3/4 (1924)  | 6-8 25/64 (2042)<br>6-3 25/32 (1925)  | 6-9 1/32 (2058)<br>6-3 49/64 (1924)  | 6-9 23/32 (2076)<br>6-3 3/4 (1924)  |
|                          | UDHRTG2 1634                          | UDHRTG2 2034                          | UDHRTG2 2434 E                      | UDHRTG2 2634 E                        | UDHRTG2 2834 E                       | UDHRTG2 3034 E                      |
|                          | 6-10 31/64 (2095)<br>6-7 13/16 (2027) | 6-11 19/32 (2123)<br>6-7 25/32 (2026) | 7-0 31/32 (2158)<br>6-7 3/4 (2026)  | 7-0 25/64 (2144)<br>6-7 25/32 (2026)  | 7-1 1/32 (2160)<br>6-7 49/64 (2026)  | 7-1 23/32 (2177)<br>6-7 3/4 (2026)  |
|                          | UDHRTG2 1636                          | UDHRTG2 2036                          | UDHRTG2 2436 E                      | UDHRTG2 2636 E                        | UDHRTG2 2836 E                       | UDHRTG2 3036 E                      |
|                          | 7-6 31/64 (2298)<br>7-3 13/16 (2230)  | 7-7 19/32 (2326)<br>7-3 25/32 (2230)  | 7-8 31/32 (2361)<br>7-3 3/4 (2229)  | 7-8 25/64 (2347)<br>7-3 25/32 (2230)  | 7-9 1/32 (2363)<br>7-3 49/64 (2229)  | 7-9 23/32 (2381)<br>7-3 3/4 (2229)  |
|                          | UDHRTG2 1640                          | UDHRTG2 2040 E                        | UDHRTG2 2440 E                      | UDHRTG2 2640 E                        | UDHRTG2 2840 E                       | UDHRTG2 3040 E                      |
|                          | 7-10 31/64 (2400)<br>7-7 13/16 (2332) | 7-11 19/32 (2428)<br>7-7 25/32 (2331) | 8-0 31/32 (2463)<br>7-7 3/4 (2330)  | 8-0 25/64 (2448)<br>7-7 25/32 (2331)  | 8-1 1/32 (2465)<br>7-7 49/64 (2331)  | 8-1 23/32 (2482)<br>7-7 3/4 (2331)  |
|                          | UDHRTG2 1642                          | UDHRTG2 2042 E                        | UDHRTG2 2442 E                      | UDHRTG2 2642 E                        | UDHRTG2 2842 E                       | UDHRTG2 3042 E                      |
|                          | 9-2 31/64 (2806)<br>8-11 13/16 (2738) | 9-3 19/32 (2834)<br>8-11 25/32 (2738) | 9-4 31/32 (2869)<br>8-11 3/4 (2737) | 9-4 25/64 (2855)<br>8-11 25/32 (2738) | 9-5 1/32 (2871)<br>8-11 49/64 (2737) | 9-5 23/32 (2889)<br>8-11 3/4 (2737) |
|                          | UDHRTG2 1650                          | UDHRTG2 2050 E                        | UDHRTG2 2450 E                      | UDHRTG2 2650 E                        | UDHRTG2 2850 E                       | UDHRTG2 3050 E                      |

## DOUBLE HUNG ROUND TOP G2

RT6 EYEBROW ABOVE SPRINGLINE STANDARD SIZES OPERATORS

| RO (mm)       | 3-2 1/4 (972)     | 3-6 1/4 (1073)    | 3-10 1/4 (1175)   | 4-2 1/4 (1276)    | 4-6 1/4 (1378)    | 5-0 1/4 (1530)    |
|---------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| RO Rad. (mm)  | 3-4 1/2 (1029)    | 3-4 1/2 (1029)    | 3-4 1/2 (1029)    | 3-4 1/2 (1029)    | 4-6 1/2 (1384)    | 4-6 1/2 (1384)    |
| RO (mm)       | 6-4 19/32 (1946)  | 6-5 47/64 (1974)  | 6-7 1/64 (2007)   | 6-8 31/64 (2044)  | 6-7 1/64 (2007)   | 6-8 55/64 (2054)  |
| RO Spln. (mm) | 5-11 51/64 (1824) | 5-11 25/32 (1823) | 5-11 49/64 (1823) | 5-11 3/4 (1822)   | 5-11 51/64 (1823) | 5-11 49/64 (1823) |
| RO (mm)       | 6-8 19/32 (2047)  | 6-9 47/64 (2076)  | 6-11 1/64 (2109)  | 7-0 31/64 (2146)  | 6-11 1/64 (2109)  | 7-0 55/64 (2155)  |
| RO Spln. (mm) | 6-3 51/64 (1925)  | 6-3 25/32 (1925)  | 6-3 49/64 (1924)  | 6-3 3/4 (1924)    | 6-3 51/64 (1925)  | 6-3 49/64 (1925)  |
| RO (mm)       | 7-0 19/32 (2149)  | 7-1 47/64 (2177)  | 7-3 1/64 (2210)   | 7-4 31/64 (2247)  | 7-3 1/64 (2210)   | 7-4 55/64 (2257)  |
| RO Spln. (mm) | 6-7 51/64 (2027)  | 6-7 25/32 (2026)  | 6-7 49/64 (2026)  | 6-7 3/4 (2025)    | 6-7 51/64 (2027)  | 6-7 49/64 (2026)  |
| RO (mm)       | 7-8 19/32 (2352)  | 7-9 47/64 (2381)  | 7-11 1/64 (2413)  | 8-0 31/64 (2451)  | 7-11 1/64 (2414)  | 8-0 55/64 (2460)  |
| RO Spln. (mm) | 7-3 51/64 (2230)  | 7-3 25/32 (2230)  | 7-3 49/64 (2229)  | 7-3 3/4 (2229)    | 7-3 51/64 (2230)  | 7-3 49/64 (2229)  |
| RO (mm)       | 8-0 19/32 (2454)  | 8-1 47/64 (2482)  | 8-3 1/64 (2515)   | 8-4 31/64 (2552)  | 8-3 1/64 (2515)   | 8-4 55/64 (2562)  |
| RO Spln. (mm) | 7-7 51/64 (2332)  | 7-7 25/32 (2331)  | 7-7 49/64 (2331)  | 7-7 3/4 (2330)    | 7-7 51/64 (2331)  | 7-7 49/64 (2331)  |
| RO (mm)       | 9-4 19/32 (2860)  | 9-5 47/64 (2889)  | 9-7 1/64 (2921)   | 9-8 31/64 (2959)  | 9-7 1/64 (2921)   | 9-8 55/64 (2968)  |
| RO Spln. (mm) | 8-11 51/64 (2738) | 8-11 25/32 (2738) | 8-11 49/64 (2737) | 8-11 3/4 (2737)   | 8-11 51/64 (2738) | 8-11 49/64 (2737) |
| RO (mm)       | 9-8 19/32 (2952)  | 9-9 47/64 (2981)  | 9-11 1/64 (3013)  | 10-0 31/64 (3051) | 9-11 1/64 (3013)  | 10-0 55/64 (3061) |
| RO Spln. (mm) | 8-11 51/64 (2738) | 8-11 25/32 (2738) | 8-11 49/64 (2737) | 8-11 3/4 (2737)   | 8-11 51/64 (2738) | 8-11 49/64 (2737) |

## DOUBLE HUNG ROUND TOP G2

RT2 HALF CIRCLE ABOVE SPRINGLINE STANDARD SIZES OPERATORS

| RO (mm)       | 2-2 1/4 (667)     | 2-6 1/4 (768)    | 2-8 1/4 (819)     | 2-10 1/4 (870)    | 3-0 1/4 (921)   | 3-2 1/4 (972)     |
|---------------|-------------------|------------------|-------------------|-------------------|-----------------|-------------------|
| RO Rad. (mm)  | 1-1 1/8 (333)     | 1-3 1/8 (384)    | 1-4 1/8 (410)     | 1-5 1/8 (435)     | 1-6 1/8 (460)   | 1-7 1/8 (486)     |
| RO (mm)       | 3-8 5/8 (1133)    | 3-10 5/8 (1184)  | 3-11 5/8 (1210)   | 3-11 5/8 (1210)   | 4-1 5/8 (1260)  | 4-2 5/8 (1286)    |
| RO Spln. (mm) | 2-7 25/32 (807)   | 2-7 3/4 (806)    | 2-7 25/32 (807)   | 2-7 25/32 (807)   | 2-7 3/4 (807)   | 2-7 51/64 (808)   |
| RO (mm)       | 4-0 5/8 (1235)    | 4-2 5/8 (1286)   | 4-3 5/8 (1311)    | 4-3 5/8 (1311)    | 4-5 5/8 (1362)  | 4-6 5/8 (1387)    |
| RO Spln. (mm) | 2-11 25/32 (909)  | 2-11 3/4 (908)   | 2-11 25/32 (909)  | 2-11 25/32 (909)  | 2-11 3/4 (908)  | 2-11 51/64 (909)  |
| RO (mm)       | 4-4 5/8 (1337)    | 4-6 5/8 (1387)   | 4-7 5/8 (1413)    | 4-7 5/8 (1413)    | 4-9 5/8 (1464)  | 4-10 5/8 (1489)   |
| RO Spln. (mm) | 3-3 25/32 (1010)  | 3-3 3/4 (1010)   | 3-3 25/32 (1010)  | 3-3 25/32 (1010)  | 3-3 3/4 (1010)  | 3-3 51/64 (1011)  |
| RO (mm)       | 4-8 5/8 (1438)    | 4-10 5/8 (1489)  | 4-11 5/8 (1514)   | 4-11 5/8 (1514)   | 5-1 5/8 (1565)  | 5-2 5/8 (1591)    |
| RO Spln. (mm) | 3-7 25/32 (1112)  | 3-7 3/4 (1111)   | 3-7 25/32 (1112)  | 3-7 25/32 (1112)  | 3-7 3/4 (1111)  | 3-7 51/64 (1113)  |
| RO (mm)       | 5-0 5/8 (1540)    | 5-2 5/8 (1591)   | 5-3 5/8 (1616)    | 5-3 5/8 (1616)    | 5-5 5/8 (1667)  | 5-6 5/8 (1692)    |
| RO Spln. (mm) | 3-11 25/32 (1214) | 3-11 3/4 (1213)  | 3-11 25/32 (1214) | 3-11 25/32 (1214) | 3-11 3/4 (1213) | 3-11 51/64 (1214) |
| RO (mm)       | 5-4 5/8 (1641)    | 5-6 5/8 (1692)   | 5-7 5/8 (1718)    | 5-7 5/8 (1718)    | 5-9 5/8 (1768)  | 5-10 5/8 (1794)   |
| RO Spln. (mm) | 3-11 49/64 (1213) | 4-3 25/32 (1315) | 4-3 25/32 (1315)  | 4-3 25/32 (1315)  | 4-3 3/4 (1315)  | 4-3 51/64 (1316)  |
| RO (mm)       | 6-0 5/8 (1743)    | 6-2 5/8 (1794)   | 6-3 5/8 (1819)    | 6-3 5/8 (1819)    | 6-5 5/8 (1870)  | 6-6 5/8 (1895)    |
| RO Spln. (mm) | 4-7 25/32 (1417)  | 4-7 3/4 (1416)   | 4-7 25/32 (1417)  | 4-7 25/32 (1417)  | 4-7 3/4 (1416)  | 4-7 51/64 (1417)  |
| RO (mm)       | 6-6 5/8 (1845)    | 6-8 5/8 (1895)   | 6-9 5/8 (1921)    | 6-9 5/8 (1921)    | 7-1 5/8 (1972)  | 7-2 5/8 (2000)    |
| RO Spln. (mm) | 4-11 49/64 (1518) | 4-11 3/4 (1518)  | 4-11 25/32 (1518) | 4-11 25/32 (1518) | 4-11 3/4 (1518) | 4-11 51/64 (1519) |
| RO (mm)       | 6-10 5/8 (1946)   | 6-12 5/8 (2000)  | 6-13 5/8 (2026)   | 6-13 5/8 (2026)   | 6-15 5/8 (2080) | 6-16 5/8 (2106)   |
| RO Spln. (mm) | 4-11 49/64 (1518) | 4-11 3/4 (1518)  | 4-11 25/32 (1518) | 4-11 25/32 (1518) | 4-11 3/4 (1518) | 4-11 51/64 (1519) |

## DOUBLE HUNG ROUND TOP G2

RT2 HALF CIRCLE ABOVE SPRINGLINE STANDARD SIZES OPERATORS

| RO (mm)       | 3-6 1/4 (1073)    | 3-10 1/4 (1175)   | 4-2 1/4 (1276)    | 4-6 1/4 (1378)    | 5-0 1/4 (1530)    |
|---------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| RO Rad. (mm)  | 1-9 1/8 (537)     |                   | 2-1 1/8 (638)     |                   | 2-6 1/8 (765)     |
|               |                   |                   |                   |                   |                   |
|               | UDHRTG2 3612      | UDHRTG2 4012      | UDHRTG2 4412      | UDHRTG2 4812      | UDHRTG2 5412      |
|               |                   |                   |                   |                   |                   |
|               | UDHRTG2 3614      | UDHRTG2 4014      | UDHRTG2 4414      | UDHRTG2 4814      | UDHRTG2 5414      |
|               |                   |                   |                   |                   |                   |
|               | UDHRTG2 3616      | UDHRTG2 4016      | UDHRTG2 4416      | UDHRTG2 4816      | UDHRTG2 5416      |
|               |                   |                   |                   |                   |                   |
|               | UDHRTG2 3618      | UDHRTG2 4018      | UDHRTG2 4418      | UDHRTG2 4818      | UDHRTG2 5418      |
|               |                   |                   |                   |                   |                   |
|               | UDHRTG2 3620      | UDHRTG2 4020      | UDHRTG2 4420      | UDHRTG2 4820      | UDHRTG2 5420      |
|               |                   |                   |                   |                   |                   |
|               | UDHRTG2 3622      | UDHRTG2 4022      | UDHRTG2 4422      | UDHRTG2 4822      | UDHRTG2 5422      |
|               |                   |                   |                   |                   |                   |
|               | UDHRTG2 3624      | UDHRTG2 4024      | UDHRTG2 4424      | UDHRTG2 4824      | UDHRTG2 5424      |
|               |                   |                   |                   |                   |                   |
|               | UDHRTG2 3626 E    | UDHRTG2 4026 E    | UDHRTG2 4426 E    | UDHRTG2 4826 E    | UDHRTG2 5426 E    |
| RO (mm)       | 3-6 1/4 (1073)    | 3-10 1/4 (1175)   | 4-2 1/4 (1276)    | 4-6 1/4 (1378)    | 5-0 1/4 (1530)    |
| RO Spln. (mm) | 1-9 1/8 (537)     | 1-11 1/8 (587)    | 2-1 1/8 (638)     | 2-3 1/8 (689)     | 2-6 1/8 (765)     |
| RO (mm)       | 4-4 5/8 (1337)    | 4-6 5/8 (1387)    | 4-8 5/8 (1438)    | 4-10 5/8 (1489)   | 5-1 5/8 (1565)    |
| RO Spln. (mm) | 2-7 25/32 (807)   | 2-7 49/64 (807)   | 2-7 3/4 (806)     | 2-7 51/64 (807)   | 2-7 49/64 (807)   |
| RO (mm)       | 4-8 5/8 (1438)    | 4-10 5/8 (1489)   | 5-0 5/8 (1540)    | 5-2 5/8 (1591)    | 5-5 5/8 (1667)    |
| RO Spln. (mm) | 2-11 25/32 (909)  | 2-11 49/64 (908)  | 2-11 3/4 (908)    | 2-11 51/64 (909)  | 2-11 49/64 (909)  |
| RO (mm)       | 5-0 5/8 (1540)    | 5-2 5/8 (1591)    | 5-4 5/8 (1641)    | 5-6 5/8 (1692)    | 5-9 5/8 (1768)    |
| RO Spln. (mm) | 3-3 25/32 (1010)  | 3-3 49/64 (1010)  | 3-3 3/4 (1009)    | 3-3 51/64 (1011)  | 3-3 49/64 (1010)  |
| RO (mm)       | 5-4 5/8 (1641)    | 5-6 5/8 (1692)    | 5-8 5/8 (1743)    | 5-10 5/8 (1794)   | 6-1 5/8 (1870)    |
| RO Spln. (mm) | 3-7 25/32 (1112)  | 3-7 49/64 (1112)  | 3-7 3/4 (1111)    | 3-7 51/64 (1112)  | 3-7 49/64 (1112)  |
| RO (mm)       | 5-8 5/8 (1743)    | 6-0 5/8 (1794)    | 6-2 5/8 (1845)    | 6-4 5/8 (1895)    | 6-5 5/8 (1972)    |
| RO Spln. (mm) | 3-11 25/32 (1214) | 3-11 49/64 (1213) | 3-11 3/4 (1213)   | 3-11 51/64 (1214) | 3-11 49/64 (1213) |
| RO (mm)       | 6-0 5/8 (1845)    | 6-2 5/8 (1895)    | 6-4 5/8 (1946)    | 6-6 5/8 (1997)    | 6-9 5/8 (2073)    |
| RO Spln. (mm) | 4-3 25/32 (1315)  | 4-3 49/64 (1315)  | 4-3 3/4 (1314)    | 4-3 51/64 (1315)  | 4-3 49/64 (1315)  |
| RO (mm)       | 6-4 5/8 (1946)    | 6-6 5/8 (1997)    | 6-8 5/8 (2048)    | 7-0 5/8 (2099)    | 7-1 5/8 (2175)    |
| RO Spln. (mm) | 4-7 25/32 (1417)  | 4-7 49/64 (1416)  | 4-7 3/4 (1416)    | 4-7 51/64 (1417)  | 4-7 49/64 (1417)  |
| RO (mm)       | 6-8 5/8 (2048)    | 7-0 5/8 (2099)    | 7-2 5/8 (2149)    | 7-4 5/8 (2200)    | 7-5 5/8 (2276)    |
| RO Spln. (mm) | 4-11 25/32 (1518) | 4-11 49/64 (1518) | 4-11 3/4 (1517)   | 4-11 51/64 (1519) | 4-11 49/64 (1518) |
| RO (mm)       | 7-0 5/8 (2099)    | 7-2 5/8 (2149)    | 7-4 5/8 (2200)    | 7-6 5/8 (2251)    | 7-8 5/8 (2302)    |
| RO Spln. (mm) | 4-11 25/32 (1518) | 4-11 49/64 (1518) | 4-11 3/4 (1517)   | 4-11 51/64 (1519) | 4-11 49/64 (1518) |
| RO (mm)       | 7-4 5/8 (2251)    | 7-6 5/8 (2302)    | 7-8 5/8 (2353)    | 8-0 5/8 (2403)    | 8-1 5/8 (2479)    |
| RO Spln. (mm) | 5-11 25/32 (1823) | 5-11 3/4 (1822)   | 5-11 25/32 (1823) | 5-11 3/4 (1824)   | 5-11 25/32 (1823) |
| RO (mm)       | 7-8 5/8 (2353)    | 8-0 5/8 (2403)    | 8-2 5/8 (2454)    | 8-4 5/8 (2505)    | 8-5 5/8 (2581)    |
| RO Spln. (mm) | 6-7 25/32 (2026)  | 6-7 3/4 (2026)    | 6-7 3/4 (2026)    | 6-7 51/64 (2027)  | 6-7 3/4 (2026)    |
| RO (mm)       | 8-2 5/8 (2454)    | 8-4 5/8 (2505)    | 8-6 5/8 (2556)    | 8-8 5/8 (2607)    | 8-9 5/8 (2683)    |
| RO Spln. (mm) | 6-7 25/32 (2026)  | 6-7 3/4 (2026)    | 6-7 25/32 (2026)  | 6-7 3/4 (2229)    | 6-7 3/4 (2229)    |
| RO (mm)       | 8-6 5/8 (2556)    | 8-8 5/8 (2607)    | 9-0 5/8 (2658)    | 9-2 5/8 (2709)    | 9-4 5/8 (2760)    |
| RO Spln. (mm) | 7-3 25/32 (2230)  | 7-3 3/4 (2229)    | 7-3 25/32 (2230)  | 7-3 3/4 (2229)    | 7-3 3/4 (2229)    |
| RO (mm)       | 9-0 5/8 (2658)    | 9-2 5/8 (2709)    | 9-4 5/8 (2760)    | 9-6 5/8 (2811)    | 9-8 5/8 (2862)    |
| RO Spln. (mm) | 7-7 49/64 (2331)  | 7-7 3/4 (2331)    | 7-7 3/4 (2331)    | 7-7 51/64 (2332)  | 7-7 3/4 (2331)    |

## DOUBLE HUNG ROUND TOP G2

RT2 HALF CIRCLE ABOVE SPRINGLINE STANDARD SIZES OPERATORS

| RO (mm)       | 2-2 1/4 (667)     | 2-6 1/4 (768)   | 2-8 1/4 (819)     | 2-10 1/4 (870)   | 3-0 1/4 (921)     | 3-2 1/4 (972)    |
|---------------|-------------------|-----------------|-------------------|------------------|-------------------|------------------|
| RO Rad. (mm)  | 1-1 1/8 (333)     |                 | 1-4 1/8 (410)     |                  | 1-6 1/8 (460)     | 1-7 1/8 (486)    |
|               |                   |                 |                   |                  |                   |                  |
|               | UDHRTG2 2028      | UDHRTG2 2428    | UDHRTG2 2628      | UDHRTG2 2828     | UDHRTG2 3028 E    | UDHRTG2 3228 E   |
|               |                   |                 |                   |                  |                   |                  |
|               | UDHRTG2 2030      | UDHRTG2 2430    | UDHRTG2 2630      | UDHRTG2 2830 E   | UDHRTG2 3030 E    | UDHRTG2 3230 E   |
|               |                   |                 |                   |                  |                   |                  |
|               | UDHRTG2 2032      | UDHRTG2 2432    | UDHRTG2 2632 E    | UDHRTG2 2832 E   | UDHRTG2 3032 E    | UDHRTG2 3232 E   |
|               |                   |                 |                   |                  |                   |                  |
|               | UDHRTG2 2034      | UDHRTG2 2434 E  | UDHRTG2 2634 E    | UDHRTG2 2834 E   | UDHRTG2 3034 E    | UDHRTG2 3234 E   |
|               |                   |                 |                   |                  |                   |                  |
|               | UDHRTG2 2036      | UDHRTG2 2436 E  | UDHRTG2 2636 E    | UDHRTG2 2836 E   | UDHRTG2 3036 E    | UDHRTG2 3236 E   |
|               |                   |                 |                   |                  |                   |                  |
|               | UDHRTG2 2040 E    | UDHRTG2 2440 E  | UDHRTG2 2640 E    | UDHRTG2 2840 E   | UDHRTG2 3040 E    | UDHRTG2 3240 E   |
|               |                   |                 |                   |                  |                   |                  |
|               | UDHRTG2 2042 E    | UDHRTG2 2442 E  | UDHRTG2 2642 E    | UDHRTG2 2842 E   | UDHRTG2 3042 E    | UDHRTG2 3242 E   |
| RO (mm)       | 2-2 1/4 (667)     | 2-6 1/4 (768)   | 2-8 1/4 (819)     | 2-10 1/4 (870)   | 3-0 1/4 (921)     | 3-2 1/4 (972)    |
| RO Rad. (mm)  | 1-1 1/8 (333)     |                 | 1-4 1/8 (410)     |                  | 1-6 1/8 (460)     | 1-7 1/8 (486)    |
| RO (mm)       | 6-4 5/8 (1946)    | 6-6 5/8 (1997)  | 6-7 5/8 (2022)    | 6-8 5/8 (2048)   | 6-9 5/8 (2073)    | 6-10 5/8 (2099)  |
| RO Spln. (mm) | 5-3 25/32 (1620)  | 5-3 3/4 (1619)  | 5-3 25/32 (1620)  | 5-3 49/64 (1620) | 5-3 3/4 (1619)    | 5-3 51/64 (1621) |
| RO (mm)       | 6-8 5/8 (2048)    | 7-0 5/8 (2100)  | 7-2 5/8 (2151)    | 7-4 5/8 (2202)   | 7-5 5/8 (2227)    | 7-6 5/8 (2253)   |
| RO Spln. (mm) | 5-7 25/32 (1722)  | 5-7 3/4 (1721)  | 5-7 25/32 (1722)  | 5-7 49/64 (1721) | 5-7 3/4 (1721)    | 5-7 51/64 (1722) |
| RO (mm)       | 7-0 5/8 (2149)    | 7-2 5/8 (2200)  | 7-4 5/8 (2251)    | 7-6 5/8 (2302)   | 7-8 5/8 (2353)    | 7-10 5/8 (2403)  |
| RO Spln. (mm) | 5-11 25/32 (1823) | 5-11 3/4 (1822) | 5-11 25/32 (1823) | 5-11 3/4 (1824)  | 5-11 25/32 (1823) | 5-11 3/4 (1824)  |
| RO (mm)       | 7-4 5/8 (2251)    | 7-6 5/8 (2302)  | 7-8 5/8 (2353)    | 8-0 5/8 (2403)   | 8-1 5/8 (2479)    | 8-2 5/8 (2505)   |
| RO Spln. (mm) | 5-11 25/32 (1823) | 5-11 3/4 (1822) | 5-11 25/32 (1823) | 5-11 3/4 (1824)  | 5-11 25/32 (1823) | 5-11 3/4 (1824)  |
| RO (mm)       | 7-8 5/8 (2353)    | 8-0 5/8 (2403)  | 8-2 5/8 (2454)    | 8-4 5/8 (2505)   | 8-5 5/8 (2581)    | 8-6 5/8 (2657)   |
| RO Spln. (mm) | 6-3 25/32 (1925)  | 6-3 3/4 (1924)  | 6-3 25/32 (1925)  | 6-3 49/64 (1924) | 6-3 3/4 (1924)    | 6-3 3/4 (2026)   |
| RO (mm)       | 8-2 5/8 (2454)    | 8-4 5/8 (2505)  | 8-6 5/8 (2556)    | 8-8 5/8 (2607)   | 8-9 5/8 (2683)    | 9-0 5/8 (2759)   |
| RO Spln. (mm) | 6-7 25/32 (2026)  | 6-7 3/4 (2026)  | 6-7 25/32 (2026)  | 6-7 3/4 (2229)   | 6-7 3/4 (2229)    | 6-7 3/4 (2229)   |
| RO (mm)       | 8-6 5/8 (2556)    | 8-8 5/8 (2607)  | 9-0 5/8 (2658)    | 9-2 5/8 (2709)   | 9-4 5/8 (2760)    | 9-6 5/8 (2811)   |
| RO Spln. (mm) | 7-3 25/32 (2230)  | 7-3 3/4 (2229)  | 7-3 25/32 (2230)  | 7-3 3/4 (2229)   | 7-3 3/4 (2229)    | 7-3 3/4 (2229)   |
| RO (mm)       | 9-0 5/8 (2658)    | 9-2 5/8 (2709)  | 9-4 5/8 (2760)    | 9-6 5/8 (2811)   | 9-8 5/8 (2862)    | 10-0 5/8 (2913)  |
| RO Spln. (mm) | 7-7 49/64 (2331)  | 7-7 3/4 (2331)  | 7-7 3/4 (2331)    | 7-7 51/64 (2332) | 7-7 3/4 (2331)    | 7-7 3/4 (2331)   |

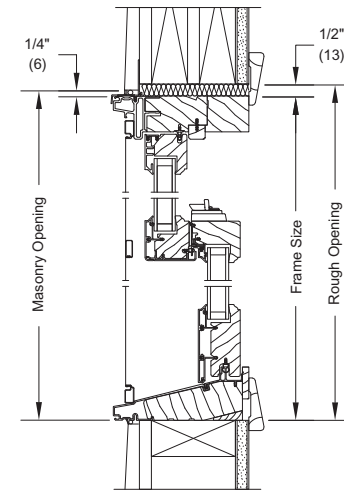
# DOUBLE HUNG ROUND TOP G2

RT2 HALF CIRCLE ABOVE SPRINGLINE STANDARD SIZES OPERATORS

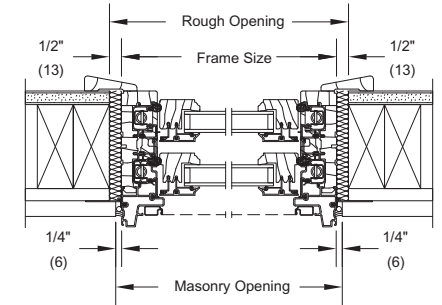
| RO (mm)<br>RO Rad. (mm)  | 3-6 1/4 (1073)<br>1-9 1/8 (537)     | 3-10 1/4 (1175)<br>1-11 1/8 (587)    | 4-2 1/4 (1276)<br>2-1 1/8 (638)   | 4-6 1/4 (1378)<br>2-3 1/8 (689)     | 5-0 1/4 (1530)<br>2-6 1/8 (765)     |
|--------------------------|-------------------------------------|--------------------------------------|-----------------------------------|-------------------------------------|-------------------------------------|
| RO (mm)<br>RO Spln. (mm) | 7-0 5/8 (2149)<br>5-3 25/32 (1620)  | 7-2 5/8 (2200)<br>5-3 49/64 (1620)   | 7-4 5/8 (2251)<br>5-3 3/4 (1619)  | 7-6 5/8 (2302)<br>5-3 51/64 (1620)  | 7-9 5/8 (2378)<br>5-3 49/64 (1620)  |
|                          | UDHRTG2 3628 E                      | UDHRTG2 4028 E                       | UDHRTG2 4428 E                    | UDHRTG2 4828 E                      | UDHRTG2 5428 E                      |
|                          | 7-4 5/8 (2251)<br>5-7 25/32 (1722)  | 7-6 5/8 (2302)<br>5-7 49/64 (1721)   | 7-8 5/8 (2353)<br>5-7 3/4 (1721)  | 7-10 5/8 (2403)<br>5-7 51/64 (1722) | 8-1 5/8 (2480)<br>5-7 49/64 (1721)  |
|                          | UDHRTG2 3630 E                      | UDHRTG2 4030 E                       | UDHRTG2 4430 E                    | UDHRTG2 4830 E                      | UDHRTG2 5430 E                      |
|                          | 7-8 5/8 (2353)<br>5-11 25/32 (1823) | 7-10 5/8 (2403)<br>5-11 49/64 (1823) | 8-0 5/8 (2454)<br>5-11 3/4 (1822) | 8-2 5/8 (2505)<br>5-11 51/64 (1823) | 8-5 5/8 (2581)<br>5-11 49/64 (1823) |
|                          | UDHRTG2 3632 E                      | UDHRTG2 4032 E                       | UDHRTG2 4432 E                    | UDHRTG2 4832 E                      | UDHRTG2 5432 E                      |
|                          | 8-0 5/8 (2454)<br>6-3 25/32 (1925)  | 8-2 5/8 (2505)<br>6-3 49/64 (1924)   | 8-4 5/8 (2556)<br>6-3 3/4 (1924)  | 8-6 5/8 (2607)<br>6-3 51/64 (1925)  | 8-9 5/8 (2683)<br>6-3 49/64 (1925)  |
|                          | UDHRTG2 3634 E                      | UDHRTG2 4034 E                       | UDHRTG2 4434 E                    | UDHRTG2 4834 E                      | UDHRTG2 5434 E                      |
|                          | 8-4 5/8 (2556)<br>6-7 25/32 (2026)  | 8-6 5/8 (2607)<br>6-7 49/64 (2026)   | 8-8 5/8 (2657)<br>6-7 3/4 (2025)  | 8-10 5/8 (2708)<br>6-7 51/64 (2027) | 9-1 5/8 (2784)<br>6-7 49/64 (2026)  |
|                          | UDHRTG2 3636 E                      | UDHRTG2 4036 E                       | UDHRTG2 4436 E                    | UDHRTG2 4836 E                      | UDHRTG2 5436 E                      |
|                          | 9-0 5/8 (2759)<br>7-3 25/32 (2230)  | 9-2 5/8 (2810)<br>7-3 49/64 (2229)   | 9-4 5/8 (2861)<br>7-3 3/4 (2229)  | 9-6 5/8 (2911)<br>7-3 51/64 (2230)  | 9-9 5/8 (2988)<br>7-3 49/64 (2229)  |
|                          | UDHRTG2 3640 E                      | UDHRTG2 4040 E                       | UDHRTG2 4440 E                    | UDHRTG2 4840 E                      | UDHRTG2 5440 E                      |
|                          | 9-4 5/8 (2861)<br>7-7 25/32 (2331)  | 9-6 5/8 (2911)<br>7-7 49/64 (2331)   | 9-8 5/8 (2962)<br>7-7 3/4 (2330)  | 9-10 5/8 (3013)<br>7-7 51/64 (2331) |                                     |
|                          | UDHRTG2 3642 E                      | UDHRTG2 4042 E                       | UDHRTG2 4442 E                    | UDHRTG2 4842 E                      |                                     |

# DOUBLE HUNG ROUND TOP G2

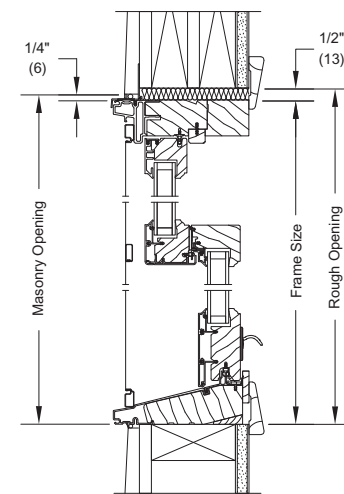
CONSTRUCTION DETAILS - OPERATOR



HEAD JAMB AND SILL - OPERATOR



JAMB - OPERATOR



HEAD JAMB AND SILL - OPERATOR WITH LIFT LOCK

# DOUBLE HUNG TRANSOM ROUND TOP G2

## RT6 TRANSOM EYEBROW ABOVE SPRINGLINE

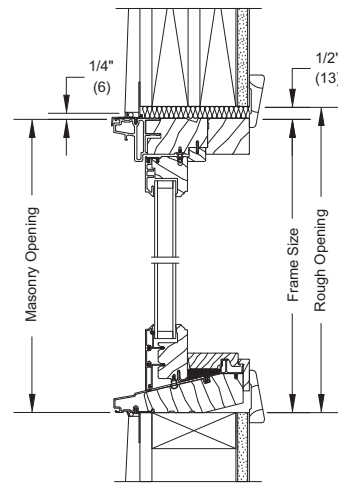
|                          |                                    |                                     |                                    |                                     |                                   |
|--------------------------|------------------------------------|-------------------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| RO (mm)<br>RO Rad. (mm)  | 1-10 1/4 (565)<br>2-0 1/2 (622)    | 2-2 1/4 (667)<br>2-0 1/2 (622)      | 2-6 1/4 (768)<br>2-0 1/2 (622)     | 2-8 1/4 (819)<br>2-6 1/2 (775)      | 2-10 1/4 (870)<br>2-6 1/2 (775)   |
| RO (mm)<br>RO Spln. (mm) | 1-10 43/64 (576)<br>1-8 (508)      | 1-11 25/32 (604)<br>1-7 31/32 (507) | 2-1 5/32 (639)<br>1-7 15/16 (506)  | 2-0 37/64 (624)<br>1-7 31/32 (507)  | 2-1 7/32 (640)<br>1-7 61/64 (507) |
|                          | UDHTRRTG2 1612                     | UDHTRRTG2 2012                      | UDHTRRTG2 2412                     | UDHTRRTG2 2612                      | UDHTRRTG2 2812                    |
| RO (mm)<br>RO Spln. (mm) | 2-6 43/64 (779)<br>2-4 (711)       | 2-7 25/32 (807)<br>2-3 31/32 (710)  | 2-9 5/32 (842)<br>2-3 15/16 (709)  | 2-8 37/64 (827)<br>2-3 31/32 (710)  | 2-9 7/32 (844)<br>2-3 61/64 (710) |
|                          | UDHTRRTG2 1620                     | UDHTRRTG2 2020                      | UDHTRRTG2 2420                     | UDHTRRTG2 2620                      | UDHTRRTG2 2820                    |
| RO (mm)<br>RO Spln. (mm) | 2-1 29/32 (658)<br>1-7 15/16 (507) | 2-0 25/32 (630)<br>1-7 63/64 (508)  | 2-1 59/64 (656)<br>1-7 31/32 (507) | 2-3 13/64 (691)<br>1-7 61/64 (507)  | 2-5 3/64 (738)<br>1-7 61/64 (507) |
|                          | UDHTRRTG2 3012                     | UDHTRRTG2 3212                      | UDHTRRTG2 3612                     | UDHTRRTG2 4012                      | UDHTRRTG2 5412                    |
| RO (mm)<br>RO Spln. (mm) | 2-9 29/32 (681)<br>2-3 15/16 (710) | 2-8 25/32 (633)<br>2-3 63/64 (711)  | 2-9 59/64 (681)<br>2-3 31/32 (710) | 2-11 13/64 (894)<br>2-3 61/64 (710) | 3-1 3/64 (941)<br>2-3 61/64 (710) |
|                          | UDHTRRTG2 3020                     | UDHTRRTG2 3220                      | UDHTRRTG2 3620                     | UDHTRRTG2 4020                      | UDHTRRTG2 5420                    |
| RO (mm)<br>RO Rad. (mm)  | 3-0 1/4 (921)<br>2-6 1/2 (775)     | 3-2 1/4 (972)<br>3-4 1/2 (1029)     | 3-6 1/4 (1073)<br>3-4 1/2 (1029)   | 3-10 1/4 (1175)<br>3-4 1/2 (1029)   | 5-0 1/4 (1530)<br>4-6 1/2 (1384)  |
| RO (mm)<br>RO Spln. (mm) | 2-1 29/32 (658)<br>1-7 15/16 (507) | 2-0 25/32 (630)<br>1-7 63/64 (508)  | 2-1 59/64 (656)<br>1-7 31/32 (507) | 2-3 13/64 (691)<br>1-7 61/64 (507)  | 2-5 3/64 (738)<br>1-7 61/64 (507) |
|                          | UDHTRRTG2 3012                     | UDHTRRTG2 3212                      | UDHTRRTG2 3612                     | UDHTRRTG2 4012                      | UDHTRRTG2 5412                    |
| RO (mm)<br>RO Spln. (mm) | 2-9 29/32 (681)<br>2-3 15/16 (710) | 2-8 25/32 (633)<br>2-3 63/64 (711)  | 2-9 59/64 (681)<br>2-3 31/32 (710) | 2-11 13/64 (894)<br>2-3 61/64 (710) | 3-1 3/64 (941)<br>2-3 61/64 (710) |
|                          | UDHTRRTG2 3020                     | UDHTRRTG2 3220                      | UDHTRRTG2 3620                     | UDHTRRTG2 4020                      | UDHTRRTG2 5420                    |

# DOUBLE HUNG TRANSOM ROUND TOP G2

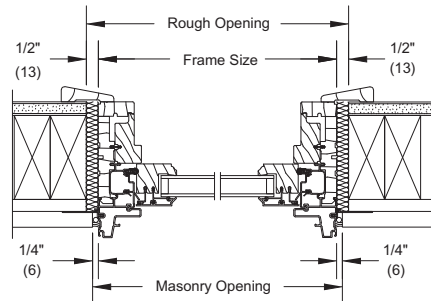
## RT2 MINIMUM SPRINGLINE

|                          |                                    |                                   |                                    |                                   |                                   |
|--------------------------|------------------------------------|-----------------------------------|------------------------------------|-----------------------------------|-----------------------------------|
| RO (mm)<br>RO Rad. (mm)  | 2-2 1/4 (667)<br>1-1 1/8 (333)     | 2-6 1/4 (768)<br>1-3 1/8 (384)    | 2-8 1/4 (819)<br>1-4 1/8 (410)     | 2-10 1/4 (870)<br>1-5 1/8 (435)   | 3-0 1/4 (921)<br>1-6 1/8 (460)    |
| RO (mm)<br>RO Spln. (mm) | 1-4 27/32 (428)<br>0-3 23/32 (94)  | 1-6 27/32 (479)<br>0-3 23/32 (94) | 1-7 27/32 (504)<br>0-3 23/32 (94)  | 1-8 27/32 (529)<br>0-3 23/32 (94) | 1-9 27/32 (555)<br>0-3 23/32 (94) |
|                          | UDHTRRTG2 2015                     | UDHTRRTG2 2417                    | UDHTRRTG2 2618                     | UDHTRRTG2 2819                    | UDHTRRTG2 3020                    |
| RO (mm)<br>RO Rad. (mm)  | 3-2 1/4 (972)<br>1-7 1/8 (486)     | 3-6 1/4 (1073)<br>1-9 1/8 (537)   | 3-10 1/4 (1175)<br>1-11 1/8 (587)  | 5-0 1/4 (1530)<br>2-6 1/8 (765)   |                                   |
| RO (mm)<br>RO Spln. (mm) | 1-10 27/32 (680)<br>0-3 23/32 (94) | 2-0 27/32 (631)<br>0-3 23/32 (94) | 2-2 27/32 (682)<br>0-3 23/32 (94)  | 2-9 27/32 (680)<br>0-3 23/32 (94) |                                   |
|                          | UDHTRRTG2 3221                     | UDHTRRTG2 3623                    | UDHTRRTG2 4025                     | UDHTRRTG2 5432                    |                                   |
| RO (mm)<br>RO Rad. (mm)  | 4-11 1/2 (1511)<br>2-5 3/4 (756)   | 5-7 1/2 (1715)<br>2-9 3/4 (857)   | 6-3 1/2 (1918)<br>3-1 3/4 (959)    |                                   |                                   |
| RO (mm)<br>RO Spln. (mm) | 2-9 15/32 (850)<br>0-3 23/32 (94)  | 3-1 15/32 (952)<br>0-3 23/32 (94) | 3-5 15/32 (1053)<br>0-3 23/32 (94) |                                   |                                   |
|                          | UDHTRRTG2 5834                     | UDHTRRTG2 6638                    | UDHTRRTG2 7442                     |                                   |                                   |

## CONSTRUCTION DETAILS



HEAD JAMB AND SILL - TRANSOM



JAMB - TRANSOM

Ultimate Double Hung Transom Round Top G2: UDHTRRTG2

# DOUBLE HUNG PICTURE ROUND TOP G2

RT6 PICTURE EYEBROW ABOVE SPRINGLINE

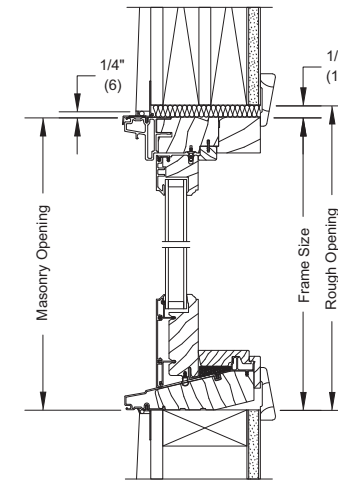
| RO (mm)      | 3-6 1/4 (1073)    | 4-2 1/4 (1276)   | 4-6 1/4 (1378)   | 5-2 1/4 (1581)    | 5-10 1/4 (1784)  |
|--------------|-------------------|------------------|------------------|-------------------|------------------|
| RO Rad. (mm) | 3-4 1/2 (1029)    | 3-4 1/2 (1029)   | 4-6 1/2 (1384)   | 6-0 1/2 (1842)    | 6-0 1/2 (1842)   |
| RO (mm)      | 3-9 47/64 (1161)  | 4-0 31/64 (1231) | 3-11 1/64 (1194) | 3-10 27/32 (1190) | 4-0 7/8 (1241)   |
| RO Spn. (mm) | 3-3 25/32 (1010)  | 3-3 3/4 (1009)   | 3-3 5/16 (1011)  | 3-3 13/16 (1011)  | 3-3 5/16 (1011)  |
| RO (mm)      | 4-1 47/64 (1263)  | 4-4 31/64 (1333) | 4-3 1/64 (1296)  | 4-2 27/32 (1291)  | 4-4 7/8 (1343)   |
| RO Spn. (mm) | 3-7 25/32 (1112)  | 3-7 3/4 (1111)   | 3-7 5/16 (1112)  | 3-7 13/16 (1113)  | 3-7 5/16 (1112)  |
| RO (mm)      | 4-5 47/64 (1365)  | 4-8 31/64 (1435) | 4-7 1/64 (1398)  | 4-6 27/32 (1393)  | 4-8 7/8 (1445)   |
| RO Spn. (mm) | 3-11 25/32 (1214) | 3-11 3/4 (1213)  | 3-11 5/16 (1214) | 3-11 13/16 (1215) | 3-11 5/16 (1214) |
| RO (mm)      | 4-9 47/64 (1466)  | 5-0 31/64 (1536) | 4-11 1/64 (1499) | 4-10 27/32 (1494) | 5-0 7/8 (1546)   |
| RO Spn. (mm) | 4-3 25/32 (1315)  | 4-3 3/4 (1314)   | 4-3 5/16 (1315)  | 4-3 13/16 (1316)  | 4-3 5/16 (1316)  |
| RO (mm)      | 5-1 47/64 (1568)  | 5-4 31/64 (1638) | 5-3 1/64 (1601)  | 5-2 27/32 (1596)  | 5-4 7/8 (1648)   |
| RO Spn. (mm) | 4-7 25/32 (1417)  | 4-7 3/4 (1416)   | 4-7 5/16 (1417)  | 4-7 13/16 (1418)  | 4-7 5/16 (1417)  |
| RO (mm)      | 5-5 47/64 (1669)  | 5-8 31/64 (1739) | 5-7 1/64 (1702)  | 5-6 27/32 (1698)  | 5-8 7/8 (1749)   |
| RO Spn. (mm) | 4-11 25/32 (1518) | 4-11 3/4 (1517)  | 4-11 5/16 (1519) | 4-11 13/16 (1519) | 4-11 5/16 (1519) |
| RO (mm)      | 5-9 47/64 (1771)  | 6-0 31/64 (1841) | 5-11 1/64 (1804) | 5-10 27/32 (1799) | 6-0 7/8 (1851)   |
| RO Spn. (mm) | 5-3 25/32 (1620)  | 5-3 3/4 (1619)   | 5-3 5/16 (1620)  | 5-3 13/16 (1621)  | 5-3 5/16 (1620)  |
| RO (mm)      | 6-1 47/64 (1873)  | 6-8 31/64 (1943) | 6-3 1/64 (1906)  | 6-2 27/32 (1901)  | 6-4 7/8 (1953)   |
| RO Spn. (mm) | 5-7 25/32 (1722)  | 5-7 3/4 (1721)   | 5-7 5/16 (1722)  | 5-7 13/16 (1723)  | 5-7 5/16 (1722)  |
| RO (mm)      | 6-5 47/64 (1974)  | 6-8 31/64 (2044) | 6-7 1/64 (2007)  | 6-6 27/32 (2002)  | 6-8 7/8 (2054)   |
| RO Spn. (mm) | 5-11 25/32 (1823) | 5-11 3/4 (1822)  | 5-11 5/16 (1823) | 5-11 13/16 (1824) | 5-11 5/16 (1824) |

# DOUBLE HUNG PICTURE ROUND TOP G2

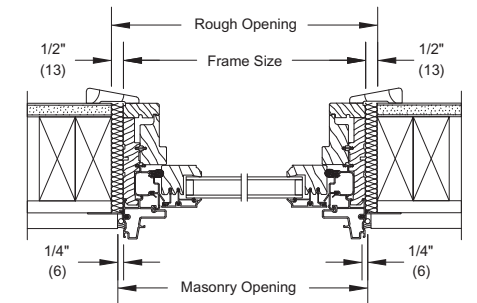
RT6 PICTURE EYEBROW ABOVE SPRINGLINE

| RO (mm)      | 3-6 1/4 (1073)   | 4-2 1/4 (1276)   | 4-6 1/4 (1378)   | 5-2 1/4 (1581)    | 5-10 1/4 (1784) |
|--------------|------------------|------------------|------------------|-------------------|-----------------|
| RO Rad. (mm) | 3-4 1/2 (1029)   | 3-4 1/2 (1029)   | 4-6 1/2 (1384)   | 6-0 1/2 (1842)    | 6-0 1/2 (1842)  |
| RO (mm)      | 6-9 47/64 (2076) | 7-0 31/64 (2146) | 6-11 1/64 (2109) | 6-10 27/32 (2104) | 7-0 7/8 (2516)  |
| RO Spn. (mm) | 6-3 25/32 (1925) | 6-3 3/4 (1924)   | 6-3 5/16 (1925)  | 6-3 13/16 (1926)  | 6-3 5/16 (1925) |
| RO (mm)      | 7-1 47/64 (2177) | 7-4 31/64 (2247) | 7-3 1/64 (2210)  | 7-2 27/32 (2206)  | 7-4 7/8 (2257)  |
| RO Spn. (mm) | 6-7 25/32 (2026) | 6-7 3/4 (2025)   | 6-7 5/16 (2027)  | 6-7 13/16 (2027)  | 6-7 5/16 (2027) |
| RO (mm)      | 7-9 47/64 (2381) | 8-0 31/64 (2451) | 7-11 1/64 (2414) | 7-10 27/32 (2409) | 8-0 7/8 (2516)  |
| RO Spn. (mm) | 7-3 25/32 (2230) | 7-3 3/4 (2229)   | 7-3 5/16 (2230)  | 7-3 13/16 (2231)  | 7-3 5/16 (2230) |
| RO (mm)      | 8-1 47/64 (2482) | 8-4 31/64 (2552) | 8-3 1/64 (2515)  | 8-2 27/32 (2510)  | 8-4 7/8 (2516)  |
| RO Spn. (mm) | 7-7 25/32 (2331) | 7-7 3/4 (2330)   | 7-7 5/16 (2331)  | 7-7 13/16 (2332)  | 7-7 5/16 (2331) |

## CONSTRUCTION DETAILS

























































HEAD JAMB AND SILL - PICTURE



JAMB - PICTURE























































# SINGLE HUNG ROUND TOP G2

RT21 AND RT22 STANDARD SIZES OPERATORS

| RO (mm)       | 1-10 1/4 (565)  | 2-2 1/4 (667)   | 2-6 1/4 (768)   | 2-8 1/4 (819)   | 2-10 1/4 (870)  | 3-0 1/4 (921)   |
|---------------|---|---|---|---|---|---|
| RO Rad. (mm)  | 3-4 1/2 (1029)  | 3-4 1/2 (1029)  | 4-6 1/2 (1384)  | 6-0 1/2 (1842)  | 6-0 1/2 (1842)  | 6-0 1/2 (1842)  |
| RO (mm)       | 3-2 7/64 (968)  | 3-4 63/64 (1041)  | 3-4 39/64 (1031)  | 3-3 9/64 (994)  | 3-4 9/64 (1019)   | 3-5 7/32 (1047)   |
| RO Spln. (mm) | 2-7 25/32 (807)   | 2-7 47/64 (806)   | 2-7 49/64 (807)   | 2-7 13/16 (808)   | 2-7 51/64 (808)   | 2-7 51/64 (808)   |
|               | USHRTG2 1612  | USHRTG2 2012  | USHRTG2 2412  | USHRTG2 2612  | USHRTG2 2812  | USHRTG2 3012  |
|               |    |    |    |    |    |    |
|               | 3-6 7/64 (1070)   | 3-8 63/64 (1142)  | 3-8 39/64 (1133)  | 3-7 9/64 (1096)   | 3-8 9/64 (1121)   | 3-9 7/32 (1149)   |
|               | 2-11 25/32 (909)  | 2-11 47/64 (908)  | 2-11 49/64 (909)  | 2-11 13/16 (910)  | 2-11 51/64 (909)  | 2-11 51/64 (909)  |
|               | USHRTG2 1614  | USHRTG2 2014  | USHRTG2 2414  | USHRTG2 2614  | USHRTG2 2814  | USHRTG2 3014  |
|               |    |    |    |    |    |    |
|               | 3-10 7/64 (1171)  | 4-0 63/64 (1244)  | 4-0 39/64 (1235)  | 3-11 9/64 (1197)  | 4-0 9/64 (1223)   | 4-1 7/32 (1250)   |
|               | 3-3 25/32 (1010)  | 3-3 47/64 (1009)  | 3-3 49/64 (1010)  | 3-3 13/16 (1011)  | 3-3 51/64 (1011)  | 3-3 51/64 (1011)  |
|               | USHRTG2 1616  | USHRTG2 2016  | USHRTG2 2416  | USHRTG2 2616  | USHRTG2 2816  | USHRTG2 3016  |
|               |    |    |    |    |    |    |
|               | 4-2 7/64 (1273)   | 4-4 63/64 (1346)  | 4-4 39/64 (1336)  | 4-3 9/64 (1299)   | 4-4 9/64 (1324)   | 4-5 7/32 (1352)   |
|               | 3-7 25/32 (1112)  | 3-7 47/64 (1111)  | 3-7 49/64 (1112)  | 3-7 13/16 (1113)  | 3-7 51/64 (1113)  | 3-7 51/64 (1112)  |
|               | USHRTG2 1618  | USHRTG2 2018  | USHRTG2 2418  | USHRTG2 2618  | USHRTG2 2818  | USHRTG2 3018  |
|               |    |    |    |    |    |    |
|               | 4-6 7/64 (1374)   | 4-8 63/64 (1447)  | 4-8 39/64 (1438)  | 4-7 9/64 (1400)   | 4-8 9/64 (1426)   | 4-9 7/32 (1453)   |
|               | 3-11 25/32 (1213)   | 3-11 47/64 (1213)   | 3-11 49/64 (1213)   | 3-11 13/16 (1214)   | 3-11 51/64 (1214)   | 3-11 51/64 (1214)   |
|               | USHRTG2 1620  | USHRTG2 2020  | USHRTG2 2420  | USHRTG2 2620  | USHRTG2 2820  | USHRTG2 3020  |
|               |    |    |    |    |    |    |
|               | 4-10 7/64 (1476)  | 5-0 63/64 (1549)  | 5-0 39/64 (1539)  | 4-11 9/64 (1502)  | 5-0 9/64 (1527)   | 5-1 7/32 (1555)   |
|               | 4-3 25/32 (1315)  | 4-3 47/64 (1314)  | 4-3 49/64 (1315)  | 4-3 13/16 (1316)  | 4-3 51/64 (1316)  | 4-3 51/64 (1316)  |
|               | USHRTG2 1622  | USHRTG2 2022  | USHRTG2 2422  | USHRTG2 2622  | USHRTG2 2822  | USHRTG2 3022  |
|               |  |  |  |  |  |  |
|               | 5-2 7/64 (1578)   | 5-4 63/64 (1650)  | 5-4 39/64 (1641)  | 5-3 9/64 (1604)   | 5-4 9/64 (1629)   | 5-5 7/32 (1657)   |
|               | 4-7 25/32 (1417)  | 4-7 47/64 (1416)  | 4-7 49/64 (1417)  | 4-7 13/16 (1418)  | 4-7 51/64 (1417)  | 4-7 51/64 (1417)  |
|               | USHRTG2 1624  | USHRTG2 2024  | USHRTG2 2424  | USHRTG2 2624  | USHRTG2 2824  | USHRTG2 3024  |
|               |  |  |  |  |  |  |
|               | 5-6 7/64 (1679)   | 5-8 63/64 (1752)  | 5-8 39/64 (1743)  | 5-7 9/64 (1705)   | 5-8 9/64 (1731)   | 5-9 7/32 (1758)   |
|               | 4-11 25/32 (1518)   | 4-11 47/64 (1517)   | 4-11 49/64 (1518)   | 4-11 13/16 (1519)   | 4-11 51/64 (1519)   | 4-11 51/64 (1519)   |
|               | USHRTG2 1626  | USHRTG2 2026  | USHRTG2 2426  | USHRTG2 2626  | USHRTG2 2826  | USHRTG2 3026  |
|               |  |  |  |  |  |  |
|               | 5-10 7/64 (1781)  | 6-0 63/64 (1854)  | 6-0 39/64 (1844)  | 4-11 13/16 (1821)   | 6-0 9/64 (1832)   | 6-1 7/32 (1860)   |
|               | 5-3 25/32 (1620)  | 5-3 47/64 (1619)  | 5-3 49/64 (1620)  | 5-3 51/64 (1621)  | 5-3 51/64 (1621)  | 5-3 51/64 (1620)  |
|               | USHRTG2 1628  | USHRTG2 2028  | USHRTG2 2428  | USHRTG2 2628  | USHRTG2 2828  | USHRTG2 3028 E  |
|               |  |  |  |  |  |  |

# SINGLE HUNG ROUND TOP G2

RT21 AND RT22 STANDARD SIZES OPERATORS

| RO (mm)       | 3-2 1/4 (972)   | 3-6 1/4 (1073)  | 3-10 1/4 (1175)   | 4-2 1/4 (1276)  | 4-6 1/4 (1378)  | 5-0 1/4 (1530)  |
|---------------|---|---|---|---|---|---|
| RO Rad. (mm)  | 6-0 1/2 (1842)  | 7-0 1/2 (2146)  | 7-0 1/2 (2146)  | 9-0 1/2 (2756)  | 9-0 1/2 (2756)  | 9-0 1/2 (2756)  |
| RO (mm)       | 3-6 25/64 (1077)  | 3-6 53/64 (1088)  | 3-9 15/64 (1149)  | 3-7 7/8 (1115)  | 4-6 1/4 (1378)  | 5-0 1/4 (1530)  |
| RO Spln. (mm) | 2-7 25/32 (807)   | 2-7 51/64 (808)   | 2-7 49/64 (807)   | 2-7 13/16 (808)   | 2-7 13/16 (807)   | 2-7 13/16 (807)   |
|               | USHRTG2 3212  | USHRTG2 3612  | USHRTG2 4012  | USHRTG2 4412  | USHRTG2 4812  | USHRTG2 5412  |
|               |    |    |    |    |    |    |
|               | 3-10 25/64 (1178)   | 3-10 53/64 (1189)   | 4-1 15/64 (1250)  | 3-11 7/8 (1216)   | 4-2 1/16 (1271)   | 4-1 3/4 (1262)  |
|               | 2-11 25/32 (909)  | 2-11 51/64 (909)  | 2-11 49/64 (909)  | 2-11 13/16 (909)  | 2-11 13/16 (909)  | 2-11 13/16 (909)  |
|               | USHRTG2 3214  | USHRTG2 3614  | USHRTG2 4014  | USHRTG2 4414  | USHRTG2 4814  | USHRTG2 5414  |
|               |    |    |    |    |    |    |
|               | 4-2 25/64 (1280)  | 4-2 53/64 (1291)  | 4-5 15/64 (1352)  | 4-3 7/8 (1318)  | 4-6 1/16 (1373)   | 4-9 3/4 (1364)  |
|               | 3-3 25/32 (1010)  | 3-3 51/64 (1011)  | 3-3 49/64 (1010)  | 3-3 13/16 (1011)  | 3-3 13/16 (1011)  | 3-3 13/16 (1010)  |
|               | USHRTG2 3216  | USHRTG2 3616  | USHRTG2 4016  | USHRTG2 4416  | USHRTG2 4816  | USHRTG2 5416  |
|               |    |    |    |    |    |    |
|               | 4-6 25/64 (1381)  | 4-6 53/64 (1393)  | 4-9 15/64 (1454)  | 4-7 7/8 (1419)  | 4-10 1/16 (1474)  | 5-1 3/4 (1466)  |
|               | 3-7 25/32 (1112)  | 3-7 51/64 (1112)  | 3-7 49/64 (1112)  | 3-7 13/16 (1113)  | 3-7 13/16 (1112)  | 3-7 13/16 (1112)  |
|               | USHRTG2 3218  | USHRTG2 3618  | USHRTG2 4018  | USHRTG2 4418  | USHRTG2 4818  | USHRTG2 5418  |
|               |    |    |    |    |    |    |
|               | 4-10 25/64 (1483)   | 4-10 53/64 (1494)   | 5-1 15/64 (1555)  | 4-11 7/8 (1521)   | 5-2 1/16 (1576)   | 5-5 3/4 (1569)  |
|               | 3-11 25/32 (1214)   | 3-11 51/64 (1214)   | 3-11 49/64 (1213)   | 3-11 13/16 (1214)   | 3-11 13/16 (1214)   | 3-11 13/16 (1213)   |
|               | USHRTG2 3220  | USHRTG2 3620  | USHRTG2 4020  | USHRTG2 4420  | USHRTG2 4820  | USHRTG2 5420  |
|               |    |    |    |    |    |    |
|               | 5-2 25/64 (1585)  | 5-2 53/64 (1596)  | 5-5 15/64 (1657)  | 5-3 7/8 (1623)  | 5-6 1/16 (1677)   | 5-9 3/4 (1670)  |
|               | 4-3 25/32 (1315)  | 4-3 51/64 (1316)  | 4-3 49/64 (1315)  | 4-3 13/16 (1316)  | 4-3 13/16 (1315)  | 4-3 13/16 (1315)  |
|               | USHRTG2 3222  | USHRTG2 3622  | USHRTG2 4022  | USHRTG2 4422  | USHRTG2 4822  | USHRTG2 5422  |
|               |  |  |  |  |  |  |
|               | 5-6 25/64 (1686)  | 5-6 53/64 (1697)  | 5-9 15/64 (1758)  | 5-7 7/8 (1724)  | 5-10 1/16 (1779)  | 6-1 3/4 (1772)  |
|               | 4-7 25/32 (1417)  | 4-7 51/64 (1417)  | 4-7 49/64 (1417)  | 4-7 13/16 (1417)  | 4-7 13/16 (1417)  | 4-7 13/16 (1417)  |
|               | USHRTG2 3224  | USHRTG2 3624  | USHRTG2 4024  | USHRTG2 4424  | USHRTG2 4824  | USHRTG2 5424  |
|               |  |  |  |  |  |  |
|               | 5-10 25/64 (1788)   | 5-10 53/64 (1799)   | 6-1 15/64 (1860)  | 5-11 7/8 (1826)   | 6-2 1/16 (1881)   | 6-5 3/4 (1874)  |
|               | 4-11 25/32 (1518)   | 4-11 51/64 (1519)   | 4-11 49/64 (1518)   | 4-11 13/16 (1519)   | 4-11 13/16 (1519)   | 4-11 13/16 (1518)   |
|               | USHRTG2 3226 E  | USHRTG2 3626 E  | USHRTG2 4026 E  | USHRTG2 4426 E  | USHRTG2 4826 E  | USHRTG2 5426 E  |
|               |  |  |  |  |  |  |
|               | 6-2 25/64 (1889)  | 6-2 53/64 (1901)  | 6-5 15/64 (1962)  | 6-3 7/8 (1927)  | 6-6 1/16 (1982)   | 6-9 3/4 (2075)  |
|               | 5-3 25/32 (1620)  | 5-3 51/64 (1620)  | 5-3 49/64 (1620)  | 5-3 13/16 (1621)  | 5-3 13/16 (1620)  | 5-3 13/16 (1620)  |
|               | USHRTG2 3228 E  | USHRTG2 3628 E  | USHRTG2 4028 E  | USHRTG2 4428 E  | USHRTG2 4828 E  | USHRTG2 5428 E  |
|               |  |  |  |  |  |  |

**SINGLE HUNG ROUND TOP G2**

RT21 AND RT22 STANDARD SIZES OPERATORS

| RO (mm)                  | 1-10 1/4 (565)                                       | 2-2 1/4 (667)   | 2-6 1/4 (768)   | 2-8 1/4 (819)  | 2-10 1/4 (870)   | 3-0 1/4 (921)  |  |
|--------------------------|--|---|---|--|--|--|--|
| RO Rad. (mm)             | 3-4 1/2 (1029)                                       | 3-4 1/2 (1029)  | 4-6 1/2 (1384)  | 6-0 1/2 (1842)   | 6-0 1/2 (1842)   | 6-0 1/2 (1842)   |  |
| RO (mm)<br>RO SpIn. (mm) | 6-2 7/64 (1882)<br>5-7 25/32 (1721)<br>USHRTG2 1630  | 6-4 63/64 (1955)<br>5-7 47/64 (1721)<br>USHRTG2 2030    | 6-4 39/64 (1946)<br>5-7 49/64 (1721)<br>USHRTG2 2430    | 6-3 9/64 (1908)<br>5-7 13/16 (1722)<br>USHRTG2 2630    | 6-4 9/64 (1934)<br>5-7 51/64 (1722)<br>USHRTG2 2830 E  | 6-5 7/32 (1961)<br>5-7 51/64 (1722)<br>USHRTG2 3030 E    |  |
|                          | 6-6 7/64 (1984)<br>5-11 25/32 (1823)<br>USHRTG2 1632 | 6-8 63/64 (2057)<br>5-11 47/64 (1822)<br>USHRTG2 2032   | 6-8 39/64 (2047)<br>5-11 49/64 (1823)<br>USHRTG2 2432   | 6-7 9/64 (2010)<br>5-11 13/16 (1824)<br>USHRTG2 2632 E | 6-8 9/64 (2035)<br>5-11 51/64 (1824)<br>USHRTG2 2832 E | 6-9 7/32 (2063)<br>5-11 51/64 (1824)<br>USHRTG2 3032 E   |  |
|                          | 6-10 7/64 (2086)<br>6-3 25/32 (1925)<br>USHRTG2 1634 | 7-0 63/64 (2158)<br>6-3 47/64 (1824)<br>USHRTG2 2034    | 7-0 39/64 (2149)<br>6-3 49/64 (1925)<br>USHRTG2 2434 E  | 6-11 9/64 (2112)<br>6-3 13/16 (1926)<br>USHRTG2 2634 E | 7-0 9/64 (2137)<br>6-3 51/64 (1925)<br>USHRTG2 2834 E  | 7-1 7/32 (2165)<br>6-3 51/64 (1925)<br>USHRTG2 3034 E    |  |
|                          | 7-2 7/64 (2187)<br>6-7 25/32 (2026)<br>USHRTG2 1636  | 7-4 63/64 (2260)<br>6-7 47/64 (2025)<br>USHRTG2 2036    | 7-4 39/64 (2251)<br>6-7 49/64 (2026)<br>USHRTG2 2436 E  | 7-3 9/64 (2213)<br>6-7 13/16 (2027)<br>USHRTG2 2636 E  | 7-4 9/64 (2239)<br>6-7 51/64 (2027)<br>USHRTG2 2836 E  | 7-5 7/32 (2266)<br>6-7 51/64 (2027)<br>USHRTG2 3036 E    |  |
|                          | 7-10 7/64 (2390)<br>7-3 25/32 (2229)<br>USHRTG2 1640 | 8-0 63/64 (2463)<br>7-3 47/64 (2229)<br>USHRTG2 2040 E  | 8-0 39/64 (2454)<br>7-3 49/64 (2229)<br>USHRTG2 2440 E  | 7-11 9/64 (2416)<br>7-3 13/16 (2230)<br>USHRTG2 2640 E | 8-0 9/64 (2442)<br>7-3 51/64 (2230)<br>USHRTG2 2840 E  | 8-1 7/32 (2469)<br>7-3 51/64 (2230)<br>USHRTG2 3040 E    |  |
|                          | 8-2 7/64 (2492)<br>7-7 25/32 (2331)<br>USHRTG2 1642  | 8-4 63/64 (2565)<br>7-7 47/64 (2330)<br>USHRTG2 2042 E  | 8-4 39/64 (2555)<br>7-7 49/64 (2331)<br>USHRTG2 2442 E  | 8-3 9/64 (2518)<br>7-7 13/16 (2332)<br>USHRTG2 2642 E  | 8-4 9/64 (2543)<br>7-7 51/64 (2332)<br>USHRTG2 2842 E  | 8-5 7/32 (2571)<br>7-7 51/64 (2332)<br>USHRTG2 3042 E    |  |
|                          | 9-6 7/64 (2898)<br>8-11 25/32 (2737)<br>USHRTG2 1650 | 9-8 63/64 (2971)<br>8-11 47/64 (2737)<br>USHRTG2 2050 E | 7-7 49/64 (2331)<br>8-11 49/64 (2737)<br>USHRTG2 2450 E | 9-7 9/64 (2924)<br>8-11 13/16 (2738)<br>USHRTG2 2650 E | 9-8 9/64 (2950)<br>8-11 51/64 (2738)<br>USHRTG2 2850 E | 9-10 25/64 (3007)<br>8-11 25/32 (2738)<br>USHRTG2 3050 E |  |

**SINGLE HUNG ROUND TOP G2**

RT21 AND RT22 STANDARD SIZES OPERATORS

| RO (mm)                  | 3-2 1/4 (972)  | 3-6 1/4 (1073)   | 3-10 1/4 (1175)   | 4-2 1/4 (1276)   | 4-6 1/4 (1378)   | 5-0 1/4 (1530)  |  |
|--------------------------|--|--|---|--|--|---|--|
| RO Rad. (mm)             | 6-0 1/2 (1842)   | 7-0 1/2 (2146)   | 7-0 1/2 (2146)  | 9-0 1/2 (2756)   | 9-0 1/2 (2756)   | 9-0 1/2 (2756)  |  |
| RO (mm)<br>RO SpIn. (mm) | 6-6 25/64 (1991)<br>5-7 25/32 (1722)<br>USHRTG2 3230 E   | 6-6 53/64 (2002)<br>5-7 51/64 (1722)<br>USHRTG2 3630 E   | 6-9 15/64 (2063)<br>5-7 49/64 (1721)<br>USHRTG2 4030 E  | 6-7 7/8 (2029)<br>5-7 13/16 (1722)<br>USHRTG2 4430 E   | 6-10 1/16 (2084)<br>5-7 13/16 (1722)<br>USHRTG2 4830 E | 7-1 3/4 (2177)<br>5-7 13/16 (1721)<br>USHRTG2 5430 E  |  |
|                          | 6-10 25/64 (2093)<br>5-11 25/32 (1823)<br>USHRTG2 3232 E | 6-10 53/64 (2104)<br>5-11 51/64 (1824)<br>USHRTG2 3632 E | 7-1 15/64 (2165)<br>5-11 49/64 (1823)<br>USHRTG2 4032 E | 6-11 7/8 (2131)<br>5-11 13/16 (1824)<br>USHRTG2 4432 E | 7-2 1/16 (2185)<br>5-11 13/16 (1823)<br>USHRTG2 4832 E | 7-5 3/4 (2278)<br>5-11 13/16 (1823)<br>USHRTG2 5432 E |  |
|                          | 7-2 25/64 (2194)<br>6-3 25/32 (1925)<br>USHRTG2 3234 E   | 7-2 53/64 (2205)<br>6-3 51/64 (1925)<br>USHRTG2 3634 E   | 7-5 15/64 (2266)<br>6-3 49/64 (1925)<br>USHRTG2 4034 E  | 7-3 7/8 (2232)<br>6-3 13/16 (1925)<br>USHRTG2 4434 E   | 7-6 1/16 (2287)<br>6-3 13/16 (1925)<br>USHRTG2 4834 E  | 7-9 3/4 (2380)<br>6-3 13/16 (1925)<br>USHRTG2 5434 E  |  |
|                          | 7-6 25/64 (2296)<br>6-7 25/32 (2026)<br>USHRTG2 3236 E   | 7-6 53/64 (2307)<br>6-7 51/64 (2027)<br>USHRTG2 3636 E   | 7-9 15/64 (2368)<br>6-7 49/64 (2026)<br>USHRTG2 4036 E  | 7-7 7/8 (2334)<br>6-7 13/16 (2027)<br>USHRTG2 4436 E   | 7-10 1/16 (2389)<br>6-7 13/16 (2027)<br>USHRTG2 4836 E | 8-1 3/4 (2482)<br>6-7 13/16 (2026)<br>USHRTG2 5436 E  |  |
|                          | 8-2 25/64 (2499)<br>7-3 25/32 (2230)<br>USHRTG2 3240 E   | 8-2 53/64 (2510)<br>7-3 51/64 (2230)<br>USHRTG2 3640 E   | 8-5 15/64 (2571)<br>7-3 49/64 (2229)<br>USHRTG2 4040 E  | 8-3 7/8 (2537)<br>7-3 13/16 (2230)<br>USHRTG2 4440 E   | 8-6 1/16 (2592)<br>7-3 13/16 (2230)<br>USHRTG2 4840 E  | 8-9 3/4 (2685)<br>7-3 13/16 (2229)<br>USHRTG2 5440 E  |  |
|                          | 8-6 25/64 (2601)<br>7-7 25/32 (2331)<br>USHRTG2 3242 E   | 8-6 53/64 (2612)<br>7-7 51/64 (2332)<br>USHRTG2 3642 E   | 8-9 15/64 (2673)<br>7-7 49/64 (2331)<br>USHRTG2 4042 E  | 8-7 7/8 (2639)<br>7-7 13/16 (2332)<br>USHRTG2 4442 E   | 8-10 1/16 (2693)<br>7-7 13/16 (2331)<br>USHRTG2 4842 E | 9-1 3/4 (2786)<br>7-7 13/16 (2331)<br>USHRTG2 5442 E  |  |
|                          | 9-10 25/64 (3007)<br>8-11 25/32 (2738)<br>USHRTG2 3250 E | 9-10 53/64 (3018)<br>8-11 51/64 (2738)<br>USHRTG2 3650 E |   | 9-11 7/8 (3045)<br>8-11 13/16 (2738)<br>USHRTG2 4450 E |  |   |  |

### DIRECT GLAZE ROUND TOP – Double Hung

### DIRECT GLAZE ROUND TOP – Double Hung

RT6 EYEBROW ABOVE SPRINGLINE STANDARD SIZES - DIRECT GLAZE

RT6 EYEBROW ABOVE SPRINGLINE STANDARD SIZES - DIRECT GLAZE

| RO (mm)       | 2-2 3/8 (670)  | 2-6 3/8 (772)   | 2-8 3/8 (822)  | 2-10 3/8 (873)  | 3-0 3/8 (924)  | 3-2 3/8 (975)   | 3-6 3/8 (1076) |
|---------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|
| RO Rad. (mm)  | 2-0 1/2 (622)  |                 | 2-6 1/2 (775)  |                 | 3-4 1/2 (1029) |                 | 3-4 1/2 (1029) |
| RO (mm)       | 1-0 1/2 (318)  | 1-6 1/2 (470)   | 2-0 1/2 (622)  | 2-10 3/8 (873)  | 3-0 3/8 (924)  | 3-2 3/8 (975)   | 3-6 3/8 (1076) |
| RO Sphn. (mm) | 0-8 5/8 (219)  | 1-2 5/8 (371)   | 1-8 5/8 (524)  | 2-6 1/2 (775)   | 2-6 1/2 (775)  | 3-4 1/2 (1029)  | 3-4 1/2 (1029) |
|               | UDGRT 2511     | UDGRT2911       | UDGRT 2523     | UDGRT3311       | UDGRT3511      | UDGRT3711       | UDGRT4111      |
|               | 0-7 7/32 (183) | 1-1 7/32 (336)  | 1-7 7/32 (488) | 0-7 3/16 (183)  | 0-6 1/2 (165)  | 0-6 1/2 (165)   |                |
|               | UDGRT2519      | UDGRT 2919      | UDGRT 2523     | UDGRT3319       | UDGRT3519      | UDGRT3719       | UDGRT4119      |
|               | 1-6 1/2 (470)  | 1-1 7/32 (336)  | 1-7 7/32 (488) | 1-1 3/16 (335)  | 1-0 1/2 (318)  | 1-1 1/16 (348)  | 1-0 1/2 (318)  |
|               | UDGRT 2523     | UDGRT2923       | UDGRT 2523     | UDGRT3323       | UDGRT3523      | UDGRT3723       | UDGRT4123      |
|               | 2-0 1/2 (622)  | 1-7 7/32 (488)  | 1-7 7/8 (605)  | 1-7 3/16 (487)  | 1-6 1/2 (470)  | 1-7 1/16 (600)  | 1-6 1/2 (470)  |
|               | UDGRT 2535     | UDGRT2935       | UDGRT3123      | UDGRT3323       | UDGRT3523      | UDGRT3723       | UDGRT4123      |
|               | 3-0 1/2 (827)  | 2-7 7/32 (793)  | 2-7 7/8 (810)  | 2-7 3/16 (792)  | 2-6 1/2 (775)  | 2-7 1/16 (805)  | 2-6 1/2 (775)  |
|               | UDGRT2547      | UDGRT2947       | UDGRT3135      | UDGRT3335       | UDGRT3535      | UDGRT3735       | UDGRT4135      |
|               | 4-0 1/2 (1232) | 3-7 7/32 (1098) | 3-7 7/8 (1114) | 3-7 3/16 (1097) | 3-6 1/2 (1080) | 3-7 1/16 (1110) | 3-6 1/2 (1080) |
|               | UDGRT2559      | UDGRT2959       | UDGRT 3159     | UDGRT 3359      | UDGRT3559      | UDGRT3759       | UDGRT4159      |
|               | 5-0 1/2 (1537) | 4-7 7/32 (1403) | 4-7 7/8 (1419) | 4-7 3/16 (1402) | 4-6 1/2 (1384) | 4-7 1/16 (1414) | 4-6 1/2 (1384) |
|               | UDGRT 2571     | UDGRT2971       | UDGRT3171      | UDGRT3371       | UDGRT3571      | UDGRT3771       | UDGRT4171      |
|               | 6-0 1/2 (1842) | 5-7 7/32 (1707) | 5-7 7/8 (1724) | 5-7 3/16 (1707) | 5-6 1/2 (1689) | 5-7 1/16 (1719) | 5-6 1/2 (1689) |

| RO (mm)       | 3-10 3/8 (1178) | 4-3 3/4 (1314)  | 4-11 3/4 (1518) | 5-7 3/4 (1721)  | 6-3 3/4 (1924)   |
|---------------|-----------------|-----------------|-----------------|-----------------|------------------|
| RO Rad. (mm)  | 3-4 1/2 (1029)  |                 | 4-6 1/2 (1384)  |                 | 6-0 1/2 (1842)   |
| RO (mm)       | 1-6 1/2 (470)   | 2-0 1/2 (622)   | 2-10 3/8 (873)  | 3-0 3/8 (924)   | 3-2 3/8 (975)    |
| RO Sphn. (mm) | 0-11 7/32 (285) | 1-5 7/32 (437)  | 2-6 1/2 (775)   | 2-6 1/2 (775)   | 3-4 1/2 (1029)   |
|               | UDGRT4519       | UDGRT4523       | UDGRT4535       | UDGRT4547       | UDGRT4559        |
|               | 0-9 5/32 (233)  | 1-3 5/32 (885)  | 2-3 5/32 (690)  | 3-3 5/32 (995)  | 4-3 5/32 (1299)  |
|               | UDGRT5119       | UDGRT5123       | UDGRT5135       | UDGRT5147       | UDGRT5159        |
|               | 4-3 3/4 (1314)  | 4-11 3/4 (1518) | 5-7 3/4 (1721)  | 6-3 3/4 (1924)  | 6-0 1/2 (1842)   |
|               | UDGRT5919       | UDGRT5923       | UDGRT5935       | UDGRT5947       | UDGRT5959        |
|               | 0-10 18 (257)   | 1-4 1/8 (410)   | 2-4 1/8 (714)   | 3-4 1/8 (1019)  | 4-4 1/8 (1324)   |
|               | UDGRT6719       | UDGRT6723       | UDGRT6735       | UDGRT6747       | UDGRT6759        |
|               | 1-1 13/16 (351) | 1-1 13/16 (351) | 2-1 13/16 (656) | 3-1 13/16 (960) | 4-1 13/16 (1265) |
|               | UDGRT7519       | UDGRT7523       | UDGRT7535       | UDGRT7547       | UDGRT7559        |
|               | 0-7 13/16 (198) | 1-1 13/16 (351) | 2-1 13/16 (656) | 3-1 13/16 (960) | 4-1 13/16 (1265) |
|               | UDGRT7519       | UDGRT7523       | UDGRT7535       | UDGRT7547       | UDGRT7559        |

Details and Elevations not to scale.  
 E These windows meet national Egress codes for fire evacuation. Local codes may differ.

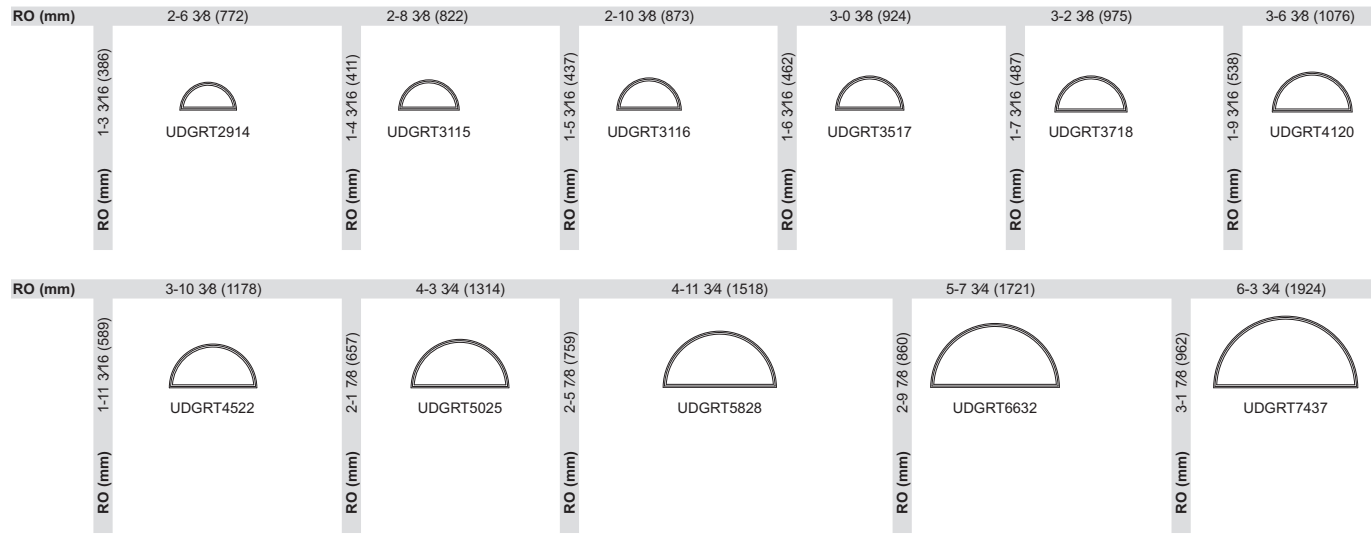
Please consult your local Marvin representative for masonry openings that include casings and subsills.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

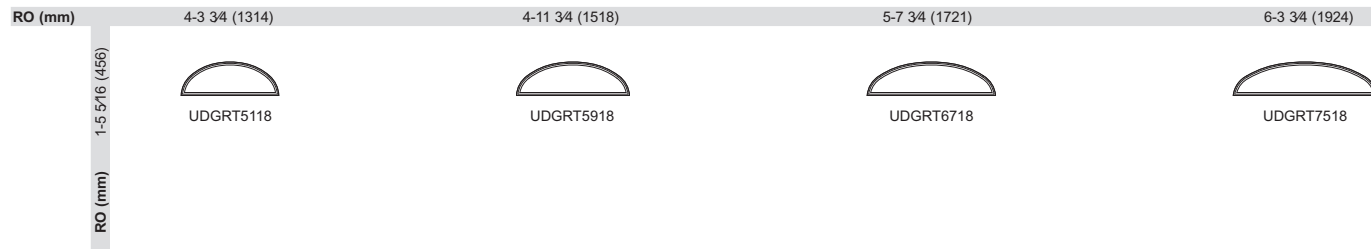
Ultimate Direct Glaze Round Top: UDGRT

## DIRECT GLAZE ROUND TOP – Double Hung

RT1 TRUE HALF CIRCLE STANDARD SIZES - DIRECT GLAZE

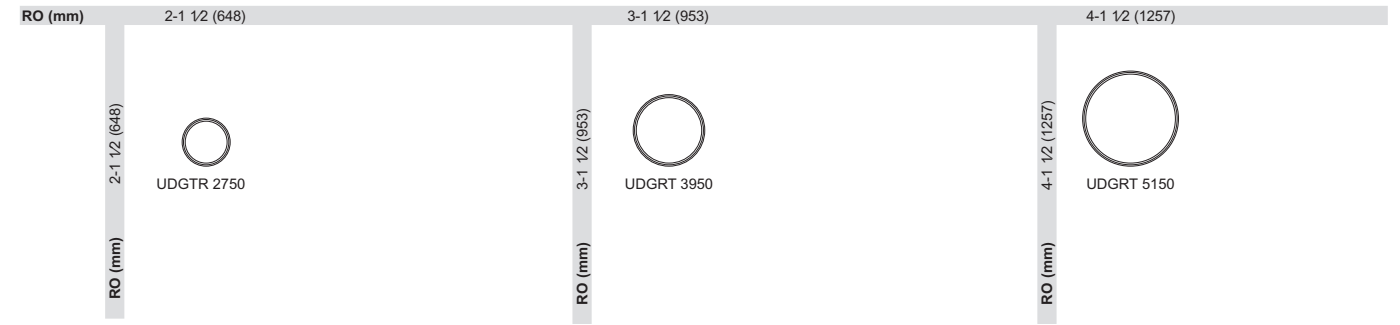


## RT29 ELLIPTICAL STANDARD SIZES - DIRECT GLAZE

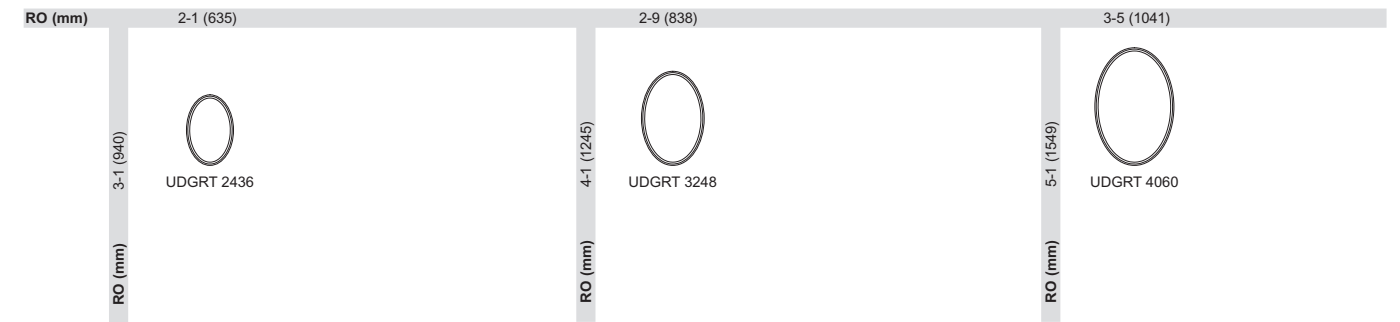


## DIRECT GLAZE ROUND TOP – Double Hung

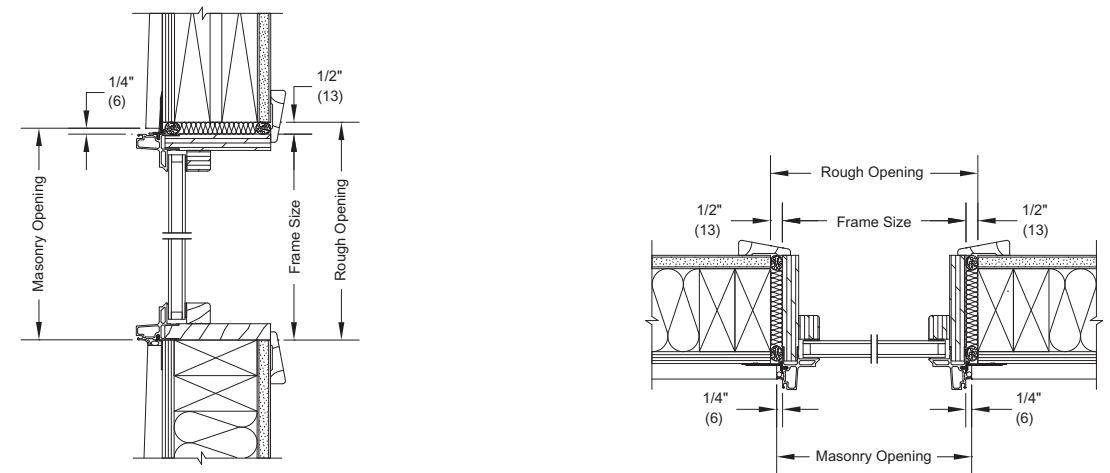
RT27 FULL CIRCLE STANDARD SIZES - DIRECT GLAZE



## RT28 FULL ELLIPSE STANDARD SIZES - DIRECT GLAZE



## CONSTRUCTION DETAILS



HEAD JAMB AND SILL - DIRECT GLAZE

JAMB - DIRECT GLAZE

Details and Elevations not to scale.  
 E These windows meet national Egress codes for fire evacuation. Local codes may differ.

Please consult your local Marvin representative for masonry openings that include casings.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

# WOOD DOUBLE HUNG INSERT

## MEASUREMENT INSTRUCTIONS

1. For Inside Opening Width (A) measure inside of frame at three locations: the sill, the center, and the head jamb. Record the narrowest measurement. Do not measure from parting stops or blind stops. See illustration 1.

2. Measure the Inside Opening Height (B) from the top of the sill to the bottom of the head jamb as shown in illustration 2.

3. Check the Sill Angle (C). Record the sill angle to the nearest degree. See illustration 2.

Note: This measurement is from wood surface to wood surface. Removal of existing jamb hardware may be necessary to reach the frame.

Note: If the angle of the sill is 8° or less the unit will be made with a flat bottom frame. If it is greater than 8° it will be made with a bevel frame.

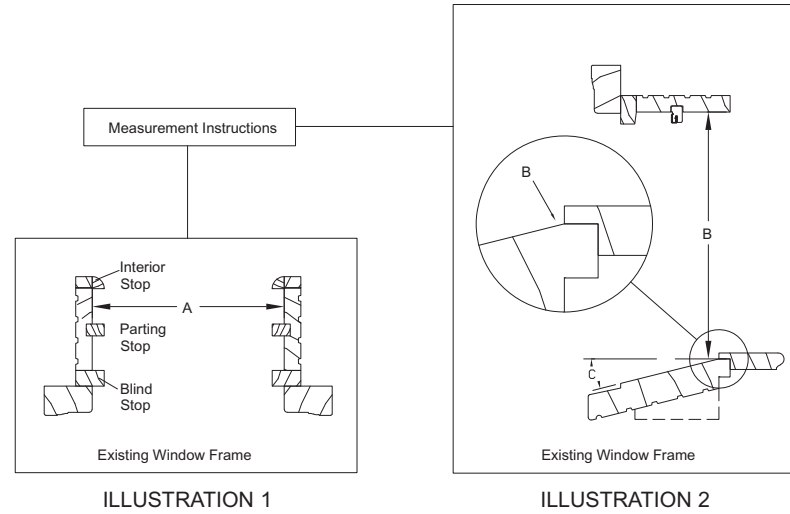
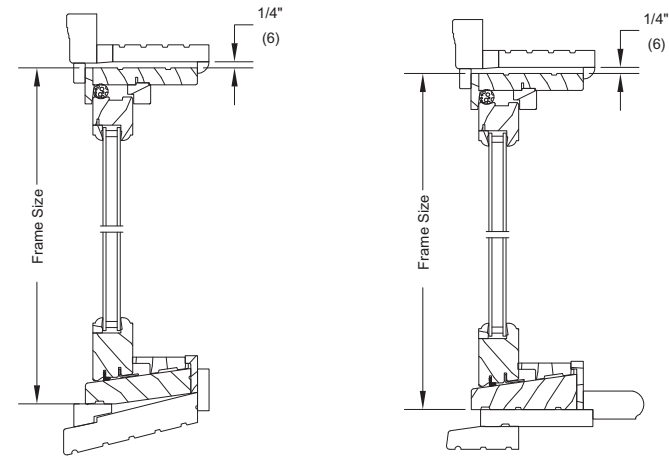


ILLUSTRATION 1

ILLUSTRATION 2

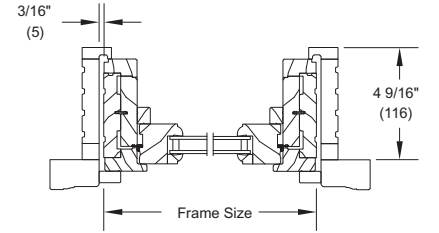
# WOOD DOUBLE HUNG INSERT TRANSOM / PICTURE

## CONSTRUCTION DETAILS - TRANSOM



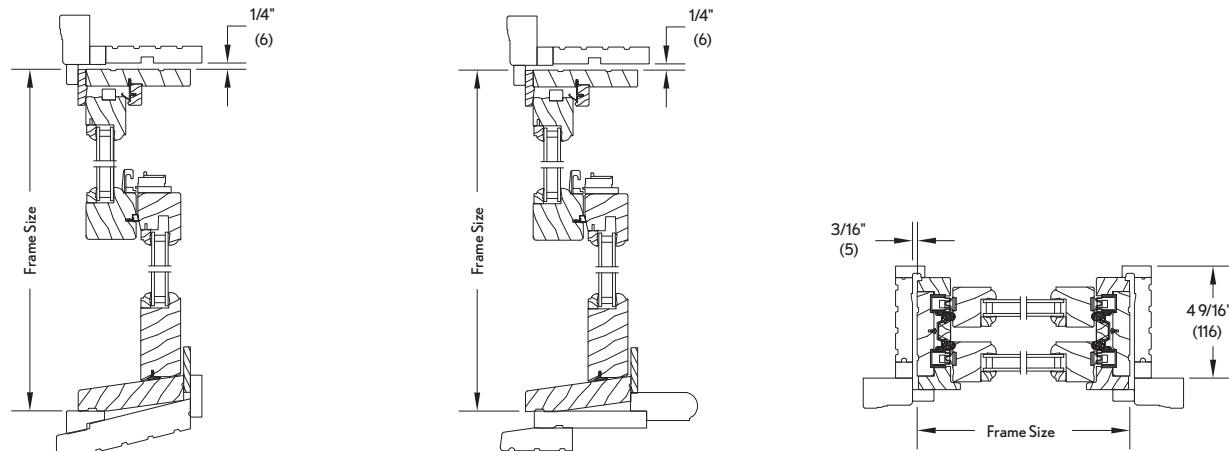
TRANSOM HEAD JAMB WITH BEVELED SILL OPTION INSTALLED IN EXISTING FRAME

TRANSOM HEAD JAMB WITH FLAT SILL OPTION INSTALLED IN EXISTING FRAME



TRANSOM HEAD JAMB INSTALLED IN EXISTING FRAME

## CONSTRUCTION DETAILS

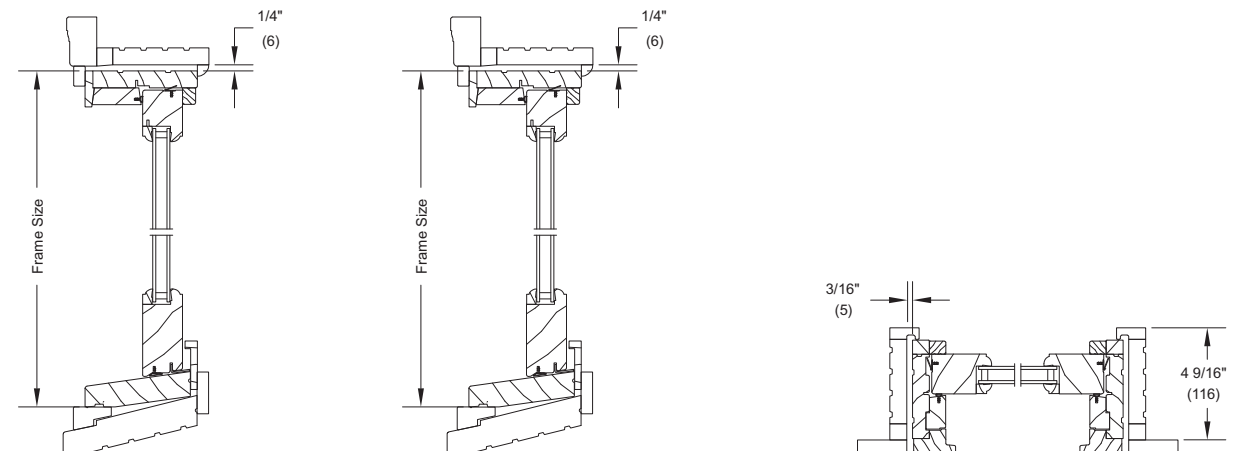


HEAD JAMB, CHECKRAIL, WITH BEVELED FRAME INSTALLED IN EXISTING FRAME

HEAD JAMB, CHECKRAIL, WITH FLAT FRAME INSTALLED IN EXISTING FRAME

JAMB INSTALLED IN EXISTING FRAME

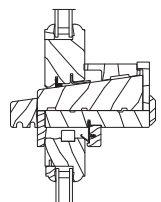
## CONSTRUCTION DETAILS - PICTURE



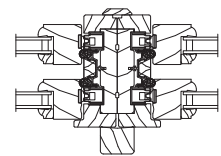
PICTURE HEAD JAMB WITH BEVELED SILL OPTION INSTALLED IN EXISTING FRAME

PICTURE HEAD JAMB WITH FLAT SILL OPTION INSTALLED IN EXISTING FRAME

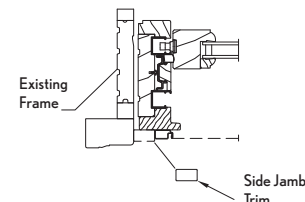
PICTURE HEAD JAMB INSTALLED IN EXISTING FRAME



WOOD HORIZONTAL MULLION TRANSOM/OPERATOR



WOOD VERTICAL MULLION OPERATOR



WOOD FRAME EXPANDER

# DOUBLE HUNG INSERT G2

## MEASUREMENT INSTRUCTIONS

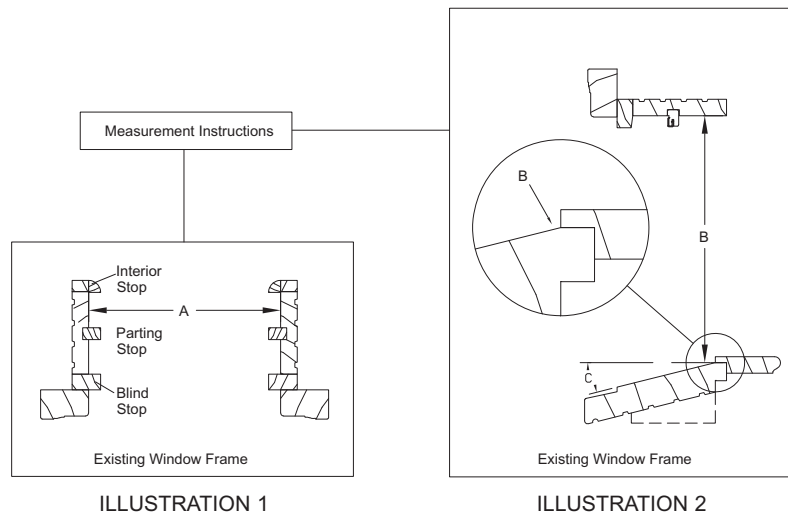
1. For Inside Opening Width (A) measure inside of frame at three locations: the sill, the center, and the head jamb. Record the narrowest measurement. Do not measure from parting stops or blind stops. See illustration 1.

Note: This measurement is from wood surface to wood surface. Removal of existing jamb hardware may be necessary to reach the frame.

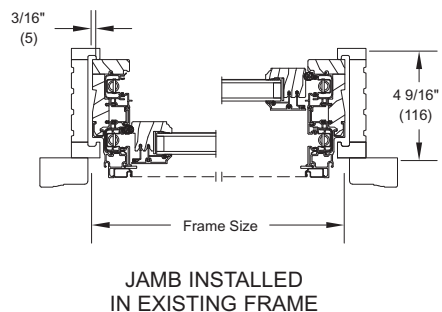
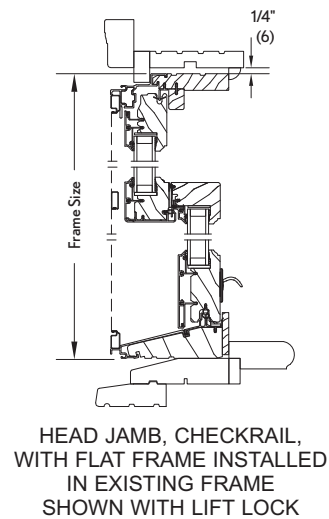
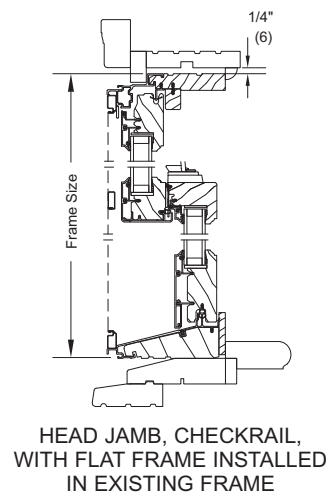
2. Measure the Inside Opening Height (B) from the top of the sill to the bottom of the head jamb as shown in illustration 2.

3. Check the Sill Angle (C). Record the sill angle to the nearest degree. See illustration 2.

Note: If the angle of the sill is 8° or less the unit will be made with a flat bottom frame. If it is greater than 8° it will be made with a bevel frame.

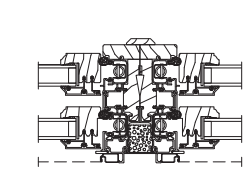
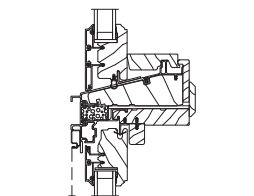
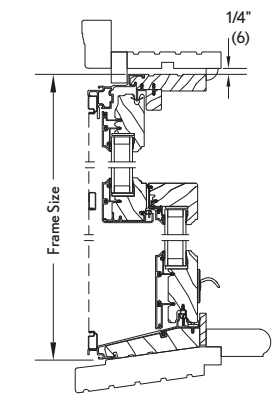
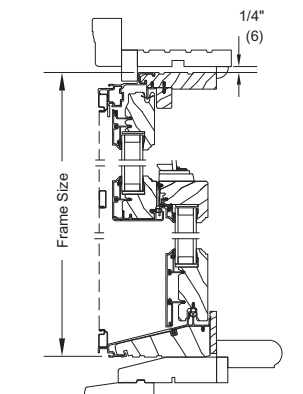
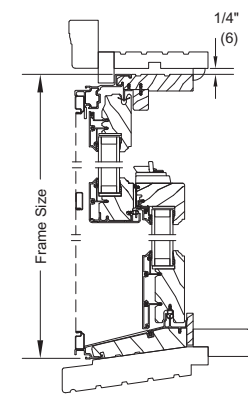
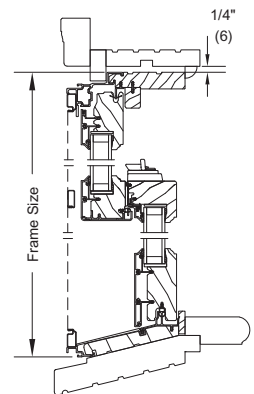


## CONSTRUCTION DETAILS



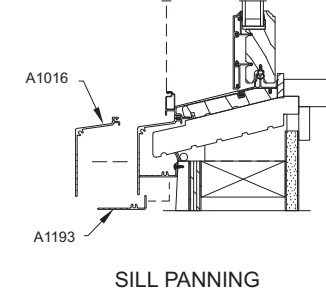
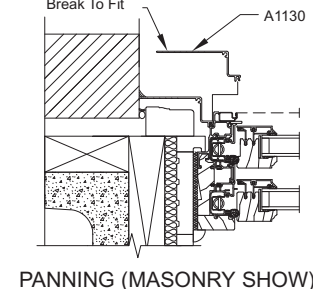
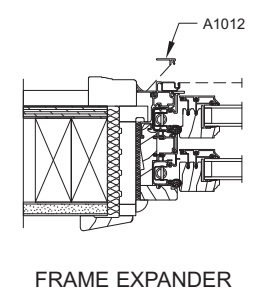
# DOUBLE HUNG INSERT G2

## CONSTRUCTION DETAILS



HORIZONTAL MULLION TRANSOM/OPERATOR

VERTICAL MULLION OPERATOR



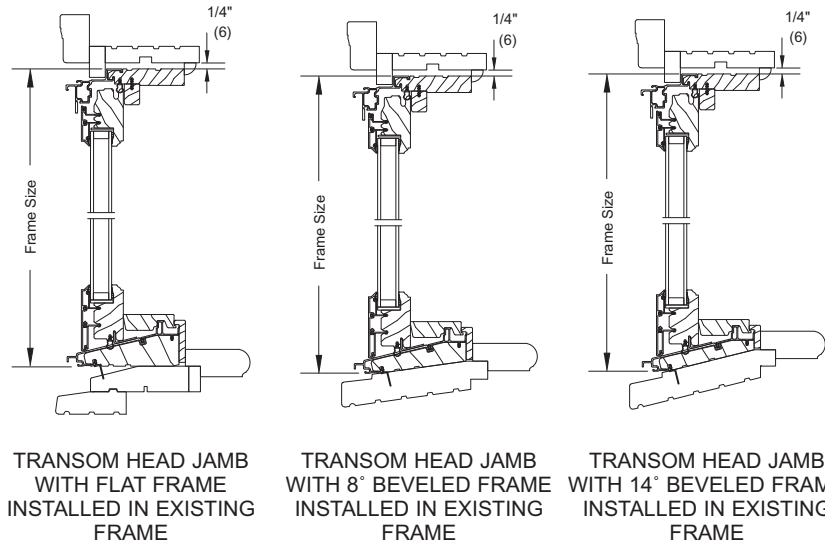
Details and Elevations not to scale.

- Ultimate Double Hung Insert G2 Windows are manufactured to your specifications. For additional information, contact your local Marvin representative.

Please consult your local Marvin representative for more information. For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

## DOUBLE HUNG INSERT TRANSOM / PICTURE G2

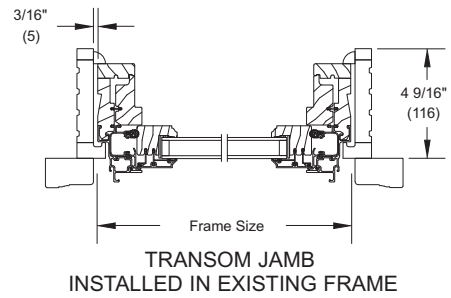
### CONSTRUCTION DETAILS



TRANSOM HEAD JAMB WITH FLAT FRAME INSTALLED IN EXISTING FRAME

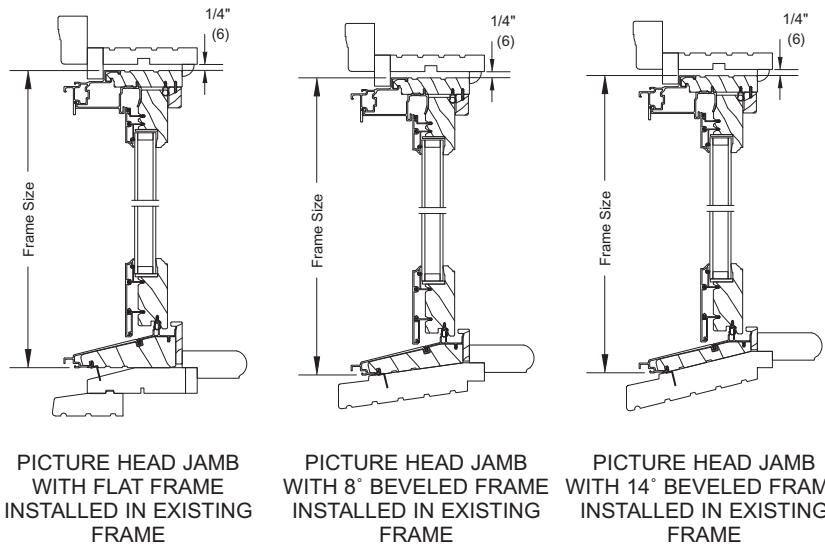
TRANSOM HEAD JAMB WITH 8° BEVELED FRAME INSTALLED IN EXISTING FRAME

TRANSOM HEAD JAMB WITH 14° BEVELED FRAME INSTALLED IN EXISTING FRAME



TRANSOM JAMB INSTALLED IN EXISTING FRAME

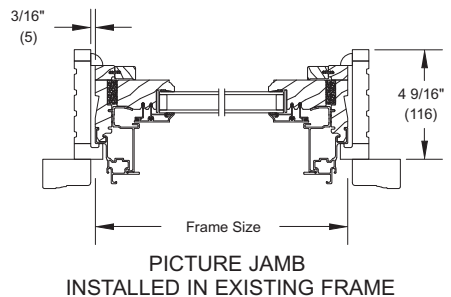
### CONSTRUCTION DETAILS - PICTURE



PICTURE HEAD JAMB WITH FLAT FRAME INSTALLED IN EXISTING FRAME

PICTURE HEAD JAMB WITH 8° BEVELED FRAME INSTALLED IN EXISTING FRAME

PICTURE HEAD JAMB WITH 14° BEVELED FRAME INSTALLED IN EXISTING FRAME



PICTURE JAMB INSTALLED IN EXISTING FRAME

## DOUBLE HUNG TILT PAC - WOOD AND CLAD

### WOOD AND CLAD DOUBLE HUNG TILT PAC® STANDARD SIZES

| 2 LT. GLASS SIZE      | SASH OPENING SIZE       |
|-----------------------|-------------------------|
| 16" (406) x 12" (305) | 1-8 (508) x 2-6 (762)   |
| 16" (406) x 14" (356) | 1-8 (508) x 2-10 (864)  |
| 16" (406) x 16" (406) | 1-8 (508) x 3-2 (965)   |
| 16" (406) x 18" (457) | 1-8 (508) x 3-6 (1067)  |
| 16" (406) x 20" (508) | 1-8 (508) x 3-10 (1168) |
| 16" (406) x 22" (559) | 1-8 (508) x 4-2 (1270)  |
| 16" (406) x 24" (610) | 1-8 (508) x 4-6 (1372)  |
| 16" (406) x 26" (660) | 1-8 (508) x 4-10 (1473) |
| 16" (406) x 28" (711) | 1-8 (508) x 5-2 (1575)  |
| 16" (406) x 30" (762) | 1-8 (508) x 5-6 (1676)  |
| 16" (406) x 32" (813) | 1-8 (508) x 5-10 (1778) |
| 16" (406) x 34" (864) | 1-8 (508) x 6-2 (1880)  |
| 16" (406) x 36" (914) | 1-8 (508) x 6-6 (1981)  |

|                       |                         |
|-----------------------|-------------------------|
| 20" (508) x 12" (305) | 2-0 (610) x 2-6 (762)   |
| 20" (508) x 14" (356) | 2-0 (610) x 2-10 (864)  |
| 20" (508) x 16" (406) | 2-0 (610) x 3-2 (965)   |
| 20" (508) x 18" (457) | 2-0 (610) x 3-6 (1067)  |
| 20" (508) x 20" (508) | 2-0 (610) x 3-10 (1168) |
| 20" (508) x 22" (559) | 2-0 (610) x 4-2 (1270)  |
| 20" (508) x 24" (610) | 2-0 (610) x 4-6 (1372)  |
| 20" (508) x 26" (660) | 2-0 (610) x 4-10 (1473) |
| 20" (508) x 28" (711) | 2-0 (610) x 5-2 (1575)  |
| 20" (508) x 30" (762) | 2-0 (610) x 5-6 (1676)  |
| 20" (508) x 32" (813) | 2-0 (610) x 5-10 (1778) |
| 20" (508) x 34" (864) | 2-0 (610) x 6-2 (1880)  |
| 20" (508) x 36" (914) | 2-0 (610) x 6-6 (1981)  |

|                       |                         |
|-----------------------|-------------------------|
| 24" (610) x 12" (305) | 2-4 (711) x 2-6 (762)   |
| 24" (610) x 14" (356) | 2-4 (711) x 2-10 (864)  |
| 24" (610) x 16" (406) | 2-4 (711) x 3-2 (965)   |
| 24" (610) x 18" (457) | 2-4 (711) x 3-6 (1067)  |
| 24" (610) x 20" (508) | 2-4 (711) x 3-10 (1168) |
| 24" (610) x 22" (559) | 2-4 (711) x 4-2 (1270)  |
| 24" (610) x 24" (610) | 2-4 (711) x 4-6 (1372)  |
| 24" (610) x 26" (660) | 2-4 (711) x 4-10 (1473) |
| 24" (610) x 28" (711) | 2-4 (711) x 5-2 (1575)  |
| 24" (610) x 30" (762) | 2-4 (711) x 5-6 (1676)  |
| 24" (610) x 32" (813) | 2-4 (711) x 5-10 (1778) |
| 24" (610) x 34" (864) | 2-4 (711) x 6-2 (1880)  |
| 24" (610) x 36" (914) | 2-4 (711) x 6-6 (1981)  |

|                       |                         |
|-----------------------|-------------------------|
| 26" (660) x 12" (305) | 2-6 (762) x 2-6 (762)   |
| 26" (660) x 14" (356) | 2-6 (762) x 2-10 (864)  |
| 26" (660) x 16" (406) | 2-6 (762) x 3-2 (965)   |
| 26" (660) x 18" (457) | 2-6 (762) x 3-6 (1067)  |
| 26" (660) x 20" (508) | 2-6 (762) x 3-10 (1168) |
| 26" (660) x 22" (559) | 2-6 (762) x 4-2 (1270)  |
| 26" (660) x 24" (610) | 2-6 (762) x 4-6 (1372)  |
| 26" (660) x 26" (660) | 2-6 (762) x 4-10 (1473) |
| 26" (660) x 28" (711) | 2-6 (762) x 5-2 (1575)  |
| 26" (660) x 30" (762) | 2-6 (762) x 5-6 (1676)  |
| 26" (660) x 32" (813) | 2-6 (762) x 5-10 (1778) |
| 26" (660) x 34" (864) | 2-6 (762) x 6-2 (1880)  |
| 26" (660) x 36" (914) | 2-6 (762) x 6-6 (1981)  |

|                       |                         |
|-----------------------|-------------------------|
| 28" (711) x 12" (305) | 2-8 (813) x 2-6 (762)   |
| 28" (711) x 14" (356) | 2-8 (813) x 2-10 (864)  |
| 28" (711) x 16" (406) | 2-8 (813) x 3-2 (965)   |
| 28" (711) x 18" (457) | 2-8 (813) x 3-6 (1067)  |
| 28" (711) x 20" (508) | 2-8 (813) x 3-10 (1168) |
| 28" (711) x 22" (559) | 2-8 (813) x 4-2 (1270)  |
| 28" (711) x 24" (610) | 2-8 (813) x 4-6 (1372)  |
| 28" (711) x 26" (660) | 2-8 (813) x 4-10 (1473) |
| 28" (711) x 28" (711) | 2-8 (813) x 5-2 (1575)  |
| 28" (711) x 30" (762) | 2-8 (813) x 5-6 (1676)  |
| 28" (711) x 32" (813) | 2-8 (813) x 5-10 (1778) |
| 28" (711) x 34" (864) | 2-8 (813) x 6-2 (1880)  |
| 28" (711) x 36" (914) | 2-8 (813) x 6-6 (1981)  |

| 2 LT. GLASS SIZE      | SASH OPENING SIZE        |
|-----------------------|--------------------------|
| 30" (762) x 12" (305) | 2-10 (864) x 2-6 (762)   |
| 30" (762) x 14" (356) | 2-10 (864) x 2-10 (864)  |
| 30" (762) x 16" (406) | 2-10 (864) x 3-2 (965)   |
| 30" (762) x 18" (457) | 2-10 (864) x 3-6 (1067)  |
| 30" (762) x 20" (508) | 2-10 (864) x 3-10 (1168) |
| 30" (762) x 22" (559) | 2-10 (864) x 4-2 (1270)  |
| 30" (762) x 24" (610) | 2-10 (864) x 4-6 (1372)  |
| 30" (762) x 26" (660) | 2-10 (864) x 4-10 (1473) |
| 30" (762) x 28" (711) | 2-10 (864) x 5-2 (1575)  |
| 30" (762) x 30" (762) | 2-10 (864) x 5-6 (1676)  |
| 30" (762) x 32" (813) | 2-10 (864) x 5-10 (1778) |
| 30" (762) x 34" (864) | 2-10 (864) x 6-2 (1880)  |
| 30" (762) x 36" (914) | 2-10 (864) x 6-6 (1981)  |

|                       |                         |
|-----------------------|-------------------------|
| 32" (813) x 12" (305) | 3-0 (914) x 2-6 (762)   |
| 32" (813) x 14" (356) | 3-0 (914) x 2-10 (864)  |
| 32" (813) x 16" (406) | 3-0 (914) x 3-2 (965)   |
| 32" (813) x 18" (457) | 3-0 (914) x 3-6 (1067)  |
| 32" (813) x 20" (508) | 3-0 (914) x 3-10 (1168) |
| 32" (813) x 22" (559) | 3-0 (914) x 4-2 (1270)  |
| 32" (813) x 24" (610) | 3-0 (914) x 4-6 (1372)  |
| 32" (813) x 26" (660) | 3-0 (914) x 4-10 (1473) |
| 32" (813) x 28" (711) | 3-0 (914) x 5-2 (1575)  |
| 32" (813) x 30" (762) | 3-0 (914) x 5-6 (1676)  |
| 32" (813) x 32" (813) | 3-0 (914) x 5-10 (1778) |
| 32" (813) x 34" (864) | 3-0 (914) x 6-2 (1880)  |
| 32" (813) x 36" (914) | 3-0 (914) x 6-6 (1981)  |

|                       |                          |
|-----------------------|--------------------------|
| 36" (914) x 12" (305) | 3-4 (1016) x 2-6 (762)   |
| 36" (914) x 14" (356) | 3-4 (1016) x 2-10 (864)  |
| 36" (914) x 16" (406) | 3-4 (1016) x 3-2 (965)   |
| 36" (914) x 18" (457) | 3-4 (1016) x 3-6 (1067)  |
| 36" (914) x 20" (508) | 3-4 (1016) x 3-10 (1168) |
| 36" (914) x 22" (559) | 3-4 (1016) x 4-2 (1270)  |
| 36" (914) x 24" (610) | 3-4 (1016) x 4-6 (1372)  |
| 36" (914) x 26" (660) | 3-4 (1016) x 4-10 (1473) |
| 36" (914) x 28" (711) | 3-4 (1016) x 5-2 (1575)  |
| 36" (914) x 30" (762) | 3-4 (1016) x 5-6 (1676)  |
| 36" (914) x 32" (813) | 3-4 (1016) x 5-10 (1778) |
| 36" (914) x 34" (864) | 3-4 (1016) x 6-2 (1880)  |
| 36" (914) x 36" (914) | 3-4 (1016) x 6-6 (1981)  |

|                        |                          |
|------------------------|--------------------------|
| 40" (1016) x 12" (305) | 3-8 (1118) x 2-6 (762)   |
| 40" (1016) x 14" (356) | 3-8 (1118) x 2-10 (864)  |
| 40" (1016) x 16" (406) | 3-8 (1118) x 3-2 (965)   |
| 40" (1016) x 18" (457) | 3-8 (1118) x 3-6 (1067)  |
| 40" (1016) x 20" (508) | 3-8 (1118) x 3-10 (1168) |
| 40" (1016) x 22" (559) | 3-8 (1118) x 4-2 (1270)  |
| 40" (1016) x 24" (610) | 3-8 (1118) x 4-6 (1372)  |
| 40" (1016) x 26" (660) | 3-8 (1118) x 4-10 (1473) |
| 40" (1016) x 28" (711) | 3-8 (1118) x 5-2 (1575)  |
| 40" (1016) x 30" (762) | 3-8 (1118) x 5-6 (1676)  |
| 40" (1016) x 32" (813) | 3-8 (1118) x 5-10 (1778) |
| 40" (1016) x 34" (864) | 3-8 (1118) x 6-2 (1880)  |
| 40" (1016) x 36" (914) | 3-8 (1118) x 6-6 (1981)  |

Details and Elevations not to scale.  
• Special sill angles available.

Please consult your local Marvin representative for more information. For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

# DOUBLE HUNG TILT PAC - WOOD AND CLAD

## MEASUREMENT INSTRUCTIONS

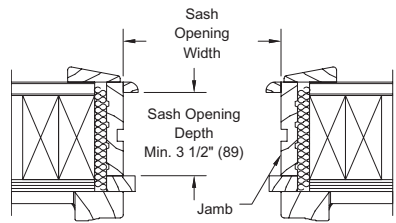


ILLUSTRATION 1

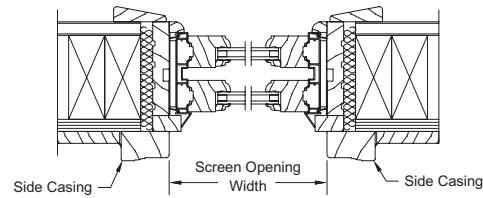


ILLUSTRATION 4

### CLAD MINIMUM AND MAXIMUM MEASUREMENTS

| GLASS TYPE                           | Minimum Glass Width | Minimum Glass Height | Maximum Glass Width | Maximum Glass Height | Maximum Glass Square Feet       |
|--------------------------------------|---------------------|----------------------|---------------------|----------------------|---------------------------------|
| Clad Double Hung Tilt Pac            |                     |                      |                     |                      |                                 |
| Insulating Glass Meters)             | 8" (203)            | 8" (203)             | 44" (1117)          | 48" (1219)           | 10.0 Sq. Feet (0.93 Sq. Meters) |
| Clad Magnum Double Hung Tilt Pac     |                     |                      |                     |                      |                                 |
| Insulating Glass Meters)             | 12" (304)           | 12" (304)            | 60" (1524)          | 60" (1524)           | 18.5 Sq. Feet (1.72 Sq. Meters) |
| Maximum sash weight 70 lbs. per sash |                     |                      |                     |                      |                                 |

These minimum and maximum measurements are guidelines for configuring custom sized units. All measurements are specific to glass type. For assistance please contact our support hotline at 800.346.3363 or your Marvin representative.

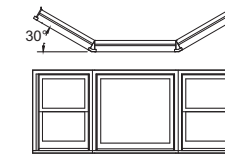
### TILT PAC® MEASUREMENT INSTRUCTIONS

Follow these steps to measure for a Tilt Pac:

- For sash opening width, take an inside measurement of the frame from jamb to jamb. Measure sash opening depth, minimum depth allowed is 3 1/2" (89). See Illustration 1.
- If the window has wood blocks holding the top sash in place, remove them. Lower the top sash a few inches.
- Measure the height of the window from where the top sash meets the head jamb to where the exterior face of the bottom sash meets the sill when fully closed. See Illustration 2.
- Check the sill bevel. To determine the existing bevel, raise the bottom sash and place a carpenter's protractor on the sill. The angle of the bevel will register. The standard Marvin sill bevel is 14° but specials are available. See Illustration 3.

# WOOD DOUBLE HUNG BAY

## 30° WOOD DOUBLE HUNG BAY WITH PICTURE CENTER UNIT



## 30° WOOD DOUBLE HUNG BAY WITH OPERATOR CENTER UNIT

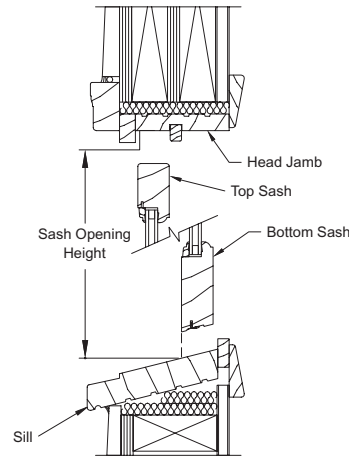
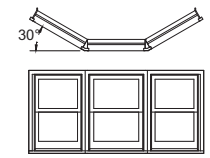


ILLUSTRATION 2

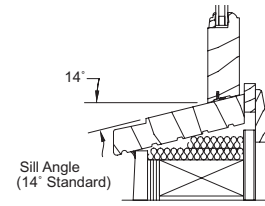


ILLUSTRATION 3

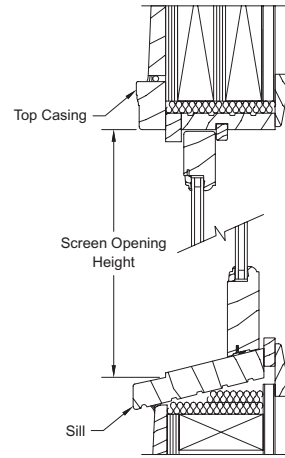


ILLUSTRATION 5

| UNIT NO. (WIDTH) | ROUGH OPENING (WIDTH) | PROJECTION      |
|------------------|-----------------------|-----------------|
| 16-40-16         | 6-11 3/16 (2113)      | 11 15/16" (303) |
| 16-48-16         | 7-7 3/16 (2316)       | 11 15/16" (303) |
| 16-52-16         | 7-11 3/16 (2418)      | 11 15/16" (303) |
| 16-60-16         | 8-7 3/16 (2621)       | 11 15/16" (303) |
|                  |                       |                 |
| 20-40-20         | 7-6 1/8 (2289)        | 13 15/16" (354) |
| 20-48-20         | 8-2 1/8 (2492)        | 13 15/16" (354) |
| 20-52-20         | 8-6 1/8 (2594)        | 13 15/16" (354) |
| 20-60-20         | 9-2 1/8 (2797)        | 13 15/16" (354) |
| 20-68-20         | 9-10 1/8 (3000)       | 13 15/16" (354) |
|                  |                       |                 |
| 24-40-24         | 8-1 1/16 (2465)       | 15 15/16" (405) |
| 24-48-24         | 8-9 1/16 (2669)       | 15 15/16" (405) |
| 24-52-24         | 9-1 1/16 (2770)       | 15 15/16" (405) |
| 24-60-24         | 9-9 1/16 (2973)       | 15 15/16" (405) |
| 24-68-24         | 10-5 1/16 (3177)      | 15 15/16" (405) |
|                  |                       |                 |
| 26-40-26         | 8-4 1/2 (2553)        | 16 15/16" (430) |
| 26-48-26         | 9-0 1/2 (2756)        | 16 15/16" (430) |
| 26-52-26         | 9-4 1/2 (2858)        | 16 15/16" (430) |
| 26-60-26         | 10-0 1/2 (3061)       | 16 15/16" (430) |
| 26-68-26         | 10-8 1/2 (3264)       | 16 15/16" (430) |
|                  |                       |                 |
| 28-40-28         | 8-7 31/32 (2641)      | 17 15/16" (456) |
| 28-48-28         | 9-3 31/32 (2844)      | 17 15/16" (456) |
| 28-52-28         | 9-7 31/32 (2946)      | 17 15/16" (456) |
| 28-60-28         | 10-3 31/32 (3149)     | 17 15/16" (456) |
| 28-68-28         | 10-11 31/32 (3352)    | 17 15/16" (456) |
|                  |                       |                 |
| 30-40-30         | 8-11 7/16 (2729)      | 18 15/16" (481) |
| 30-48-30         | 9-7 7/16 (2932)       | 18 15/16" (481) |
| 30-52-30         | 9-11 7/16 (3034)      | 18 15/16" (481) |
| 30-60-30         | 10-7 7/16 (3237)      | 18 15/16" (481) |
| 30-68-30         | 11-3 7/16 (3440)      | 18 15/16" (481) |
|                  |                       |                 |
| 32-40-32         | 9-2 15/16 (2817)      | 19 15/16" (506) |
| 32-48-32         | 9-10 15/16 (3020)     | 19 15/16" (506) |
| 32-52-32         | 10-2 15/16 (3122)     | 19 15/16" (506) |
| 32-60-32         | 10-10 15/16 (3325)    | 19 15/16" (506) |
| 32-68-32         | 11-6 15/16 (3528)     | 19 15/16" (506) |
|                  |                       |                 |
| 36-40-36         | 9-9 27/32 (2993)      | 21 15/16" (557) |
| 36-48-36         | 10-5 27/32 (3196)     | 21 15/16" (557) |
| 36-52-36         | 10-9 27/32 (3298)     | 21 15/16" (557) |
| 36-60-36         | 11-5 27/32 (3501)     | 21 15/16" (557) |
| 36-68-36         | 12-1 27/32 (3704)     | 21 15/16" (557) |
|                  |                       |                 |
| 40-40-40         | 10-4 3/4 (3169)       | 23 15/16" (608) |
| 40-48-40         | 11-0 3/4 (3372)       | 23 15/16" (608) |
| 40-52-40         | 11-4 3/4 (3473)       | 23 15/16" (608) |
| 40-60-40         | 12-0 3/4 (3677)       | 23 15/16" (608) |
| 40-68-40         | 12-8 3/4 (3880)       | 23 15/16" (608) |

| UNIT NO. (WIDTH) | ROUGH OPENING (WIDTH) | PROJECTION      |
|------------------|-----------------------|-----------------|
| 16-16-16         | 5-3 3/16 (1605)       | 11 15/16" (304) |
| 16-20-16         | 5-7 3/16 (1707)       | 11 15/16" (304) |
| 16-24-16         | 5-11 3/16 (1808)      | 11 15/16" (304) |
| 16-26-16         | 6-1 3/16 (1859)       | 11 15/16" (304) |
| 16-28-16         | 6-3 3/16 (1910)       | 11 15/16" (304) |
| 16-30-16         | 6-5 3/16 (1961)       | 11 15/16" (304) |
| 16-32-16         | 6-7 3/16 (2012)       | 11 15/16" (304) |
| 16-36-16         | 6-11 3/16 (2113)      | 11 15/16" (304) |
| 16-40-16         | 7-3 3/16 (2215)       | 11 15/16" (304) |
|                  |                       |                 |
| 20-20-20         | 6-2 1/8 (1883)        | 13 15/16" (354) |
| 20-24-20         | 6-6 1/8 (1985)        | 13 15/16" (354) |
| 20-26-20         | 6-8 1/8 (2032)        | 13 15/16" (354) |
| 20-28-20         | 6-10 1/8 (2086)       | 13 15/16" (354) |
| 20-30-20         | 7-0 1/8 (2137)        | 13 15/16" (354) |
| 20-32-20         | 7-2 1/8 (2188)        | 13 15/16" (354) |
| 20-36-20         | 7-6 1/8 (2289)        | 13 15/16" (354) |
| 20-40-20         | 7-10 1/8 (2391)       | 13 15/16" (354) |
|                  |                       |                 |
| 24-24-24         | 7-1 1/16 (2160)       | 15 15/16" (405) |
| 24-26-24         | 7-3 1/16 (2211)       | 15 15/16" (405) |
| 24-28-24         | 7-5 1/16 (2262)       | 15 15/16" (405) |
| 24-30-24         | 7-7 1/16 (2313)       | 15 15/16" (405) |
| 24-32-24         | 7-9 1/16 (2364)       | 15 15/16" (405) |
| 24-36-24         | 8-1 1/16 (2465)       | 15 15/16" (405) |
| 24-40-24         | 8-5 1/16 (2567)       | 15 15/16" (405) |
|                  |                       |                 |
| 26-26-26         | 7-6 1/2 (2299)        | 16 15/16" (431) |
| 26-28-26         | 7-8 1/2 (2350)        | 16 15/16" (431) |
| 26-30-26         | 7-10 1/2 (2401)       | 16 15/16" (431) |
| 26-32-26         | 8-0 1/2 (2452)        | 16 15/16" (431) |
| 26-36-26         | 8-4 1/2 (2553)        | 16 15/16" (431) |
| 26-40-26         | 8-8 1/2 (2655)        | 16 15/16" (431) |
|                  |                       |                 |
| 28-28-28         | 8-0 (2438)            | 17 15/16" (456) |
| 28-30-28         | 8-2 (2489)            | 17 15/16" (456) |
| 28-32-28         | 8-4 (2540)            | 17 15/16" (456) |
| 28-36-28         | 8-8 (2641)            | 17 15/16" (456) |
| 28-40-28         | 9-0 (2743)            | 17 15/16" (456) |
|                  |                       |                 |
| 30-30-30         | 8-5 7/16 (2577)       | 18 15/16" (481) |
| 30-32-30         | 8-7 7/16 (2628)       | 18 15/16" (481) |
| 30-36-30         | 8-11 7/16 (2729)      | 18 15/16" (481) |
| 30-40-30         | 9-3 7/16 (2831)       | 18 15/16" (481) |
|                  |                       |                 |
| 32-32-32         | 8-10 15/16 (2716)     | 19 15/16" (507) |
| 32-36-32         | 9-2 15/16 (2817)      | 19 15/16" (507) |
| 32-40-32         | 9-6 15/16 (2919)      | 19 15/16" (507) |
|                  |                       |                 |
| 36-36-36         | 9-9 27/32 (2993)      | 21 15/16" (558) |
| 36-40-36         | 10-1 27/32 (3095)     | 21 15/16" (558) |
|                  |                       |                 |
| 40-40-40         | 10-8 3/4 (3271)       | 23 15/16" (608) |

### TILT PAC FULL SCREEN MEASUREMENT INSTRUCTIONS

Marvin recommends ordering screen after installation of Tilt Pac. This will insure proper fit if any modifications to frame or casing reveal are made during Tilt Pac installation.

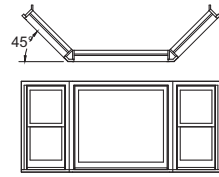
Follow these simple steps to measure for a screen:

- Measure from side casing to side casing. This is the screen opening width. See Illustration 4.
- Measure from the top of casing to the location on the sill where the screen will rest. This is the screen opening height. See Illustration 5.
- Subtract 1/8" from the screen opening width and 1/8" from screen opening height to arrive at the outside measurement needed for ordering a screen or storm combination. This 1/8" deduct will provide proper clearance and fit into the screen opening.

Note: In determining screen opening height and width do not allow for clearance around perimeter of screen. The actual outside measurements of the screen allowing for clearance will be calculated by Marvin. Verify outside measurement of the Marvin clad combination as this unit may not fit in a wood double hung frame.

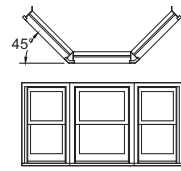
**WOOD DOUBLE HUNG BAY**

45° WOOD DOUBLE HUNG BAY WITH PICTURE CENTER UNIT



| UNIT NO. (WIDTH) | ROUGH OPENING (WIDTH) | PROJECTION      |
|------------------|-----------------------|-----------------|
| 16-40-16         | 6-5 3/16 (1961)       | 17 3/8" (441)   |
| 16-48-16         | 7-1 3/16 (2164)       | 17 3/8" (441)   |
| 16-52-16         | 7-5 3/16 (2265)       | 17 3/8" (441)   |
| 16-60-16         | 8-1 3/16 (2469)       | 17 3/8" (441)   |
| <hr/>            |                       |                 |
| 20-40-20         | 6-10 7/8 (2104)       | 20 3/16" (513)  |
| 20-48-20         | 7-6 7/8 (2307)        | 20 3/16" (513)  |
| 20-52-20         | 7-10 7/8 (2409)       | 20 3/16" (513)  |
| 20-60-20         | 8-6 7/8 (2612)        | 20 3/16" (513)  |
| 20-68-20         | 9-2 7/8 (2815)        | 20 3/16" (513)  |
| <hr/>            |                       |                 |
| 24-40-24         | 7-4 1/2 (2248)        | 23 1/32" (585)  |
| 24-48-24         | 8-0 1/2 (2451)        | 23 1/32" (585)  |
| 24-52-24         | 8-4 1/2 (2553)        | 23 1/32" (585)  |
| 24-60-24         | 9-0 1/2 (2756)        | 23 1/32" (585)  |
| 24-68-24         | 9-8 1/2 (2959)        | 23 1/32" (585)  |
| <hr/>            |                       |                 |
| 26-40-26         | 7-7 11/32 (2320)      | 24 7/16" (621)  |
| 26-48-26         | 8-3 11/32 (2523)      | 24 7/16" (621)  |
| 26-52-26         | 8-7 11/32 (2625)      | 24 7/16" (621)  |
| 26-60-26         | 9-3 11/32 (2828)      | 24 7/16" (621)  |
| 26-68-26         | 9-11 11/32 (3031)     | 24 7/16" (621)  |
| <hr/>            |                       |                 |
| 28-40-28         | 7-10 3/16 (2392)      | 25 7/8" (656)   |
| 28-48-28         | 8-6 3/16 (2595)       | 25 7/8" (656)   |
| 28-52-28         | 8-10 3/16 (2696)      | 25 7/8" (656)   |
| 28-60-28         | 9-6 3/16 (2900)       | 25 7/8" (656)   |
| 28-68-28         | 10-2 3/16 (3103)      | 25 7/8" (656)   |
| <hr/>            |                       |                 |
| 30-40-30         | 8-1 (2464)            | 27 9/32" (693)  |
| 30-48-30         | 8-9 (2667)            | 27 9/32" (693)  |
| 30-52-30         | 9-1 (2769)            | 27 9/32" (693)  |
| 30-60-30         | 9-9 (2972)            | 27 9/32" (693)  |
| 30-68-30         | 10-5 (3175)           | 27 9/32" (693)  |
| <hr/>            |                       |                 |
| 32-40-32         | 8-3 13/16 (2535)      | 28 11/16" (729) |
| 32-48-32         | 8-11 13/16 (2738)     | 28 11/16" (729) |
| 32-52-32         | 9-3 13/16 (2840)      | 28 11/16" (729) |
| 32-60-32         | 9-11 13/16 (3043)     | 28 11/16" (729) |
| 32-68-32         | 10-7 13/16 (3246)     | 28 11/16" (729) |
| <hr/>            |                       |                 |
| 36-40-36         | 8-9 1/2 (2679)        | 31 1/2" (800)   |
| 36-48-36         | 9-5 1/2 (2882)        | 31 1/2" (800)   |
| 36-52-36         | 9-9 1/2 (2984)        | 31 1/2" (800)   |
| 36-60-36         | 10-5 1/2 (3187)       | 31 1/2" (800)   |
| 36-68-36         | 11-1 1/2 (3390)       | 31 1/2" (800)   |
| <hr/>            |                       |                 |
| 40-40-40         | 9-3 1/8 (2823)        | 34 11/32" (872) |
| 40-48-40         | 9-11 1/8 (3026)       | 34 11/32" (872) |
| 40-52-40         | 10-3 1/8 (3127)       | 34 11/32" (872) |
| 40-60-40         | 10-11 1/8 (3331)      | 34 11/32" (872) |
| 40-68-40         | 11-7 1/8 (3534)       | 34 11/32" (872) |

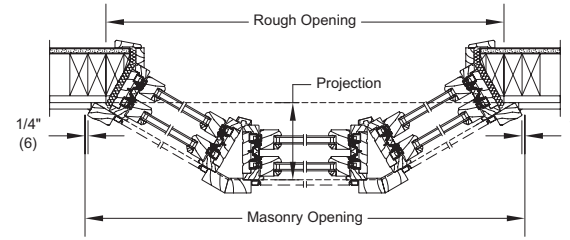
45° WOOD DOUBLE HUNG BAY WITH OPERATOR CENTER UNIT



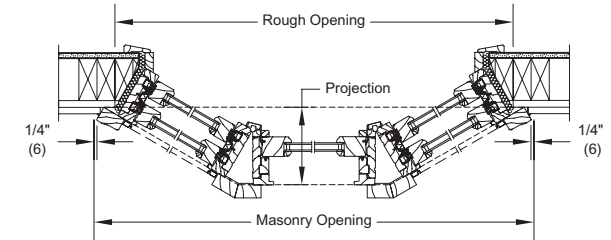
| UNIT NO. (WIDTH) | ROUGH OPENING (WIDTH) | PROJECTION      |
|------------------|-----------------------|-----------------|
| 16-16-16         | 4-9 3/16 (1453)       | 17 3/8" (441)   |
| 16-20-16         | 5-1 3/16 (1554)       | 17 3/8" (441)   |
| 16-24-16         | 5-5 3/16 (1656)       | 17 3/8" (441)   |
| 16-26-16         | 5-7 3/16 (1707)       | 17 3/8" (441)   |
| 16-28-16         | 5-9 3/16 (1758)       | 17 3/8" (441)   |
| 16-30-16         | 5-11 3/16 (1808)      | 17 3/8" (441)   |
| 16-32-16         | 6-1 3/16 (1859)       | 17 3/8" (441)   |
| 16-36-16         | 6-5 3/16 (1961)       | 17 3/8" (441)   |
| 16-40-16         | 6-9 3/16 (2062)       | 17 3/8" (441)   |
| <hr/>            |                       |                 |
| 20-20-20         | 5-6 27/32 (1698)      | 20 3/16" (513)  |
| 20-24-20         | 5-10 27/32 (1800)     | 20 3/16" (513)  |
| 20-26-20         | 6-0 27/32 (1851)      | 20 3/16" (513)  |
| 20-28-20         | 6-2 27/32 (1901)      | 20 3/16" (513)  |
| 20-30-20         | 6-4 27/32 (1952)      | 20 3/16" (513)  |
| 20-32-20         | 6-6 27/32 (2003)      | 20 3/16" (513)  |
| 20-36-20         | 6-10 27/32 (2105)     | 20 3/16" (513)  |
| 20-40-20         | 7-2 27/32 (2206)      | 20 3/16" (513)  |
| <hr/>            |                       |                 |
| 24-24-24         | 6-4 1/2 (1943)        | 23 1/32" (585)  |
| 24-26-24         | 6-6 1/2 (1994)        | 23 1/32" (585)  |
| 24-28-24         | 6-8 1/2 (2045)        | 23 1/32" (585)  |
| 24-30-24         | 6-10 1/2 (2096)       | 23 1/32" (585)  |
| 24-32-24         | 7-0 1/2 (2147)        | 23 1/32" (585)  |
| 24-36-24         | 7-4 1/2 (2248)        | 23 1/32" (585)  |
| 24-40-24         | 7-8 1/2 (2350)        | 23 1/32" (585)  |
| <hr/>            |                       |                 |
| 26-26-26         | 6-9 11/32 (2066)      | 24 7/16" (621)  |
| 26-28-26         | 6-11 11/32 (2117)     | 24 7/16" (621)  |
| 26-30-26         | 7-1 11/32 (2168)      | 24 7/16" (621)  |
| 26-32-26         | 7-3 11/32 (2219)      | 24 7/16" (621)  |
| 26-36-26         | 7-7 11/32 (2320)      | 24 7/16" (621)  |
| 26-40-26         | 7-11 11/32 (2422)     | 24 7/16" (621)  |
| <hr/>            |                       |                 |
| 28-28-28         | 7-2 3/16 (2189)       | 25 7/8" (657)   |
| 28-30-28         | 7-4 3/16 (2240)       | 25 7/8" (657)   |
| 28-32-28         | 7-6 3/16 (2290)       | 25 7/8" (657)   |
| 28-36-28         | 7-10 3/16 (2392)      | 25 7/8" (657)   |
| 28-40-28         | 8-2 3/16 (2494)       | 25 7/8" (657)   |
| <hr/>            |                       |                 |
| 30-30-30         | 7-7 (2311)            | 27 9/32" (693)  |
| 30-32-30         | 7-9 (2362)            | 27 9/32" (693)  |
| 30-36-30         | 8-1 (2464)            | 27 9/32" (693)  |
| 30-40-30         | 8-5 (2565)            | 27 9/32" (693)  |
| <hr/>            |                       |                 |
| 32-32-32         | 7-11 13/16 (2434)     | 28 11/16" (729) |
| 32-36-32         | 8-3 13/16 (2536)      | 28 11/16" (729) |
| 32-40-32         | 8-7 13/16 (2637)      | 28 11/16" (729) |
| <hr/>            |                       |                 |
| 36-36-36         | 8-9 1/2 (2679)        | 31 1/2" (800)   |
| 36-40-36         | 9-1 1/2 (2781)        | 31 1/2" (800)   |
| <hr/>            |                       |                 |
| 40-40-40         | 9-7 1/8 (2925)        | 34 11/32" (872) |

**WOOD DOUBLE HUNG BAY**

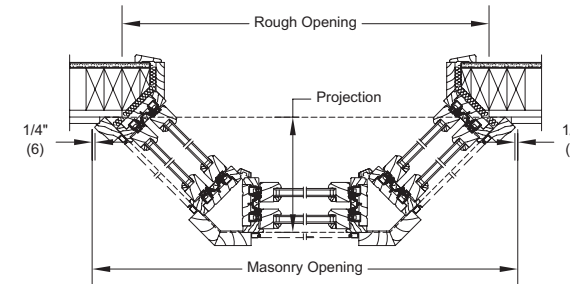
CONSTRUCTION DETAILS



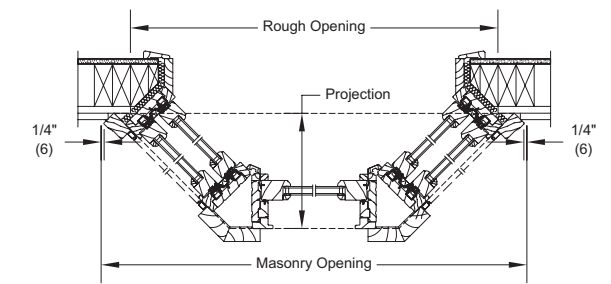
30° ULTIMATE WOOD DOUBLE HUNG BAY JAMB WITH OPERATOR CENTER UNIT



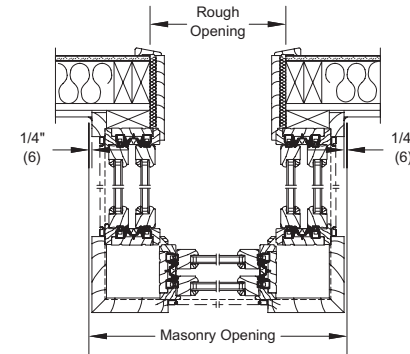
30° ULTIMATE WOOD DOUBLE HUNG BAY JAMB WITH PICTURE CENTER UNIT



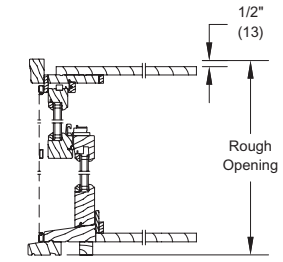
45° ULTIMATE WOOD DOUBLE HUNG BAY JAMB WITH OPERATOR CENTER UNIT



45° ULTIMATE WOOD DOUBLE HUNG BAY JAMB WITH PICTURE CENTER UNIT



90° ULTIMATE WOOD DOUBLE HUNG BAY JAMB WITH OPERATOR CENTER UNIT



ULTIMATE WOOD DOUBLE HUNG BAY HEAD JAMB AND SILL

60° ULTIMATE DOUBLE HUNG BAY FORMULA

TO CALCULATE PROJECTION  
Flanker GLASS SIZE (width) PLUS 9.3217 (237) x .86603 (22) = PROJECTION

TO CALCULATE ROUGH OPENING  
PROJECTION x .57735 (15) MINUS 2.1251 (54) x 2 (51) PLUS 5.2684 (134) PLUS Center Unit Sash Operating width = ROUGH OPENING width (Allows 1" (25) clearance)

90° ULTIMATE DOUBLE HUNG BAY FORMULA

TO CALCULATE PROJECTION  
OM of Flanker (width) PLUS 6 1/16" (154) = PROJECTION

TO CALCULATE ROUGH OPENING  
OM of Center Unit(s) (width) PLUS 1 5/8" (41) = ROUGH OPENING width

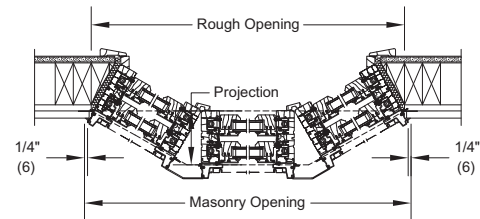
ROUGH OPENING HEIGHTS

| UNIT NO. (HEIGHT) | ROUGH OPENING   |                  |
|-------------------|-----------------|------------------|
| Side Unit No.     | Center Unit No. | Height           |
| 16                | 38              | 3-6 3/16 (1073)  |
| 18                | 42              | 3-10 3/16 (1175) |
| 20                | 46              | 4-2 3/16 (1276)  |
| 22                | 50              | 4-6 3/16 (1378)  |
| 24                | 54              | 4-10 3/16 (1480) |
| 26                | 58              | 5-2 3/16 (1581)  |
| 28                | 62              | 5-6 3/16 (1683)  |
| 30                | 66              | 5-10 3/16 (1784) |
| 32                | 70              | 6-2 3/16 (1886)  |
| 34                | 74              | 6-6 3/16 (1988)  |
| 36                | 78              | 6-10 3/16 (2089) |

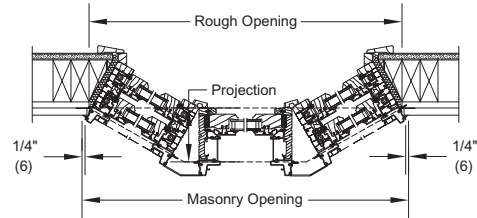
Details and Elevations not to scale.  
• Above dimensions include head and seat boards.  
If no head/seat board, deduct 1 1/16" (17) in rough opening height.  
Please consult your local Marvin representative for more information.  
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

# DOUBLE HUNG BAY G2

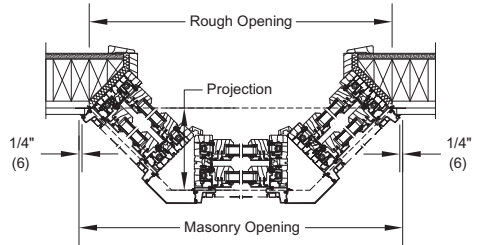
## CONSTRUCTION DETAILS



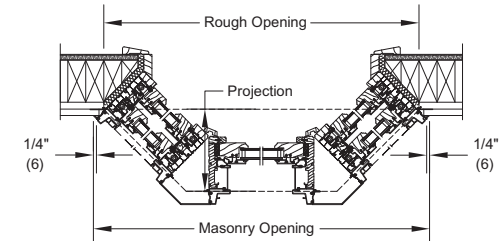
30° ULTIMATE DOUBLE HUNG G2 BAY JAMB DETAIL WITH OPERATOR CENTER UNIT



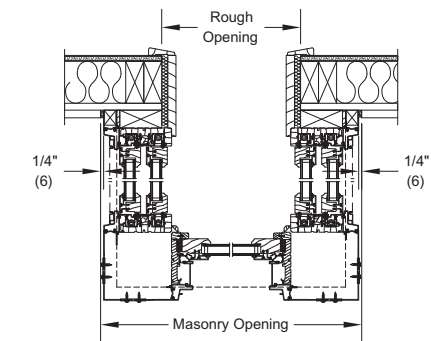
30° ULTIMATE DOUBLE HUNG G2 BAY JAMB DETAIL WITH PICTURE CENTER UNIT



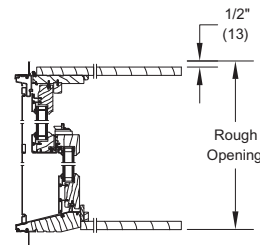
45° ULTIMATE DOUBLE HUNG G2 BAY JAMB DETAIL WITH OPERATOR CENTER UNIT



45° ULTIMATE DOUBLE HUNG G2 BAY JAMB DETAIL WITH PICTURE CENTER UNIT



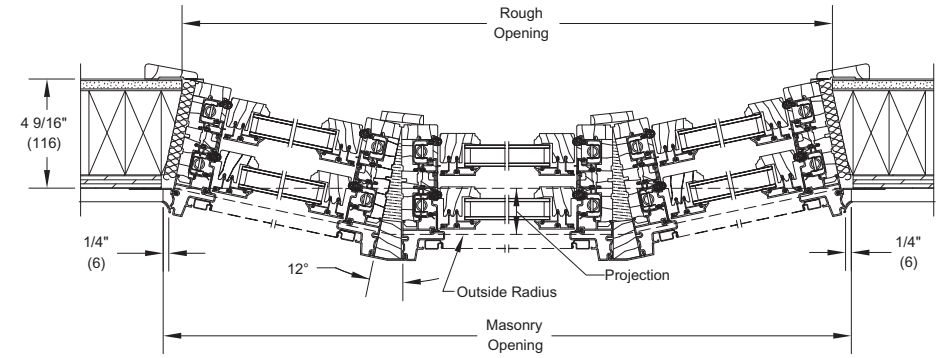
90° ULTIMATE DOUBLE HUNG G2 BAY JAMB DETAIL WITH PICTURE CENTER UNIT



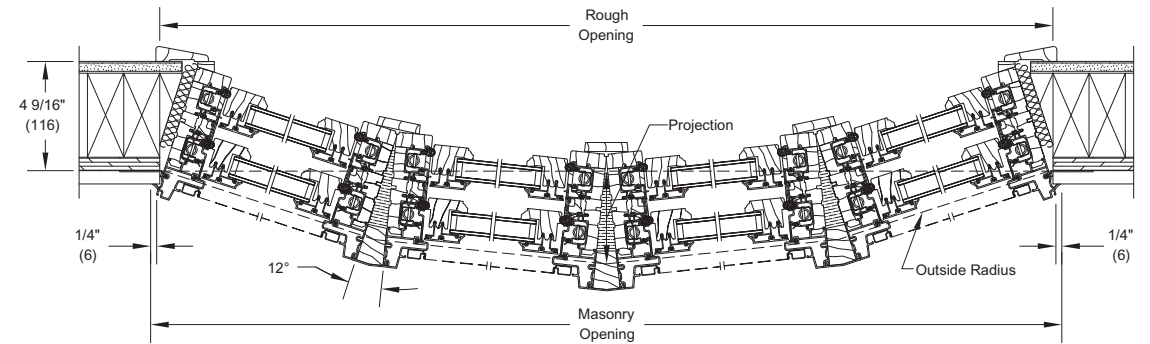
ULTIMATE DOUBLE HUNG G2 BAY HEAD JAMB AND SILL DETAIL

# DOUBLE HUNG BOW G2

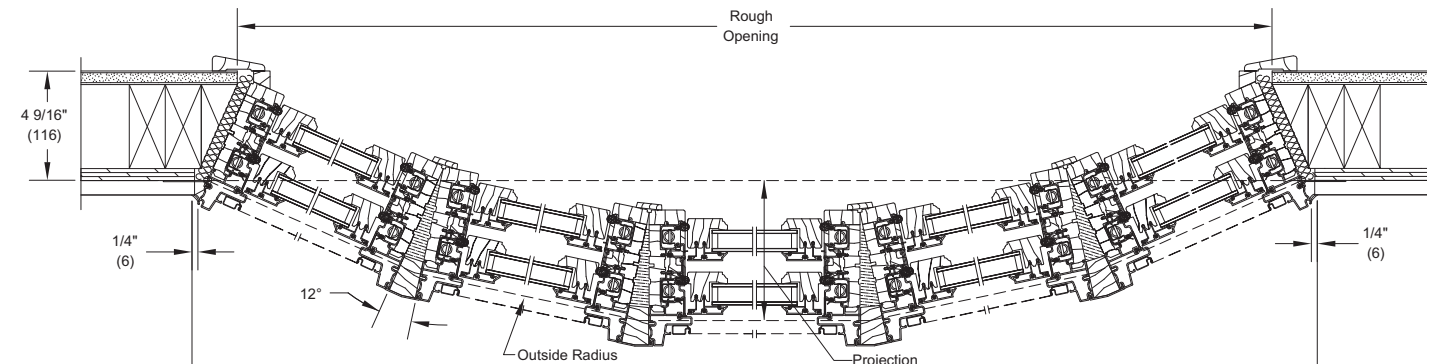
## CONSTRUCTION DETAILS



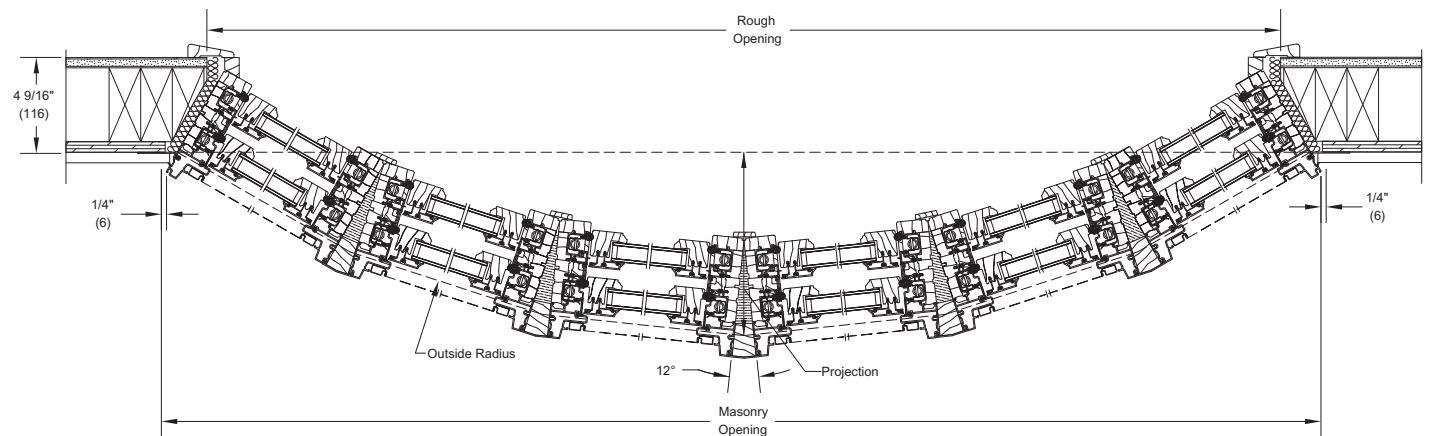
JAMB DETAIL - 3 WIDE



JAMB DETAIL - 4 WIDE



JAMB DETAIL - 5 WIDE



JAMB DETAIL - 6 WIDE

**WOOD CASEMENT / WOOD CASEMENT PUSH OUT**

|                 |                   |                  |                  |                  |                  |                   |                  |                  |                  |                   |
|-----------------|-------------------|------------------|------------------|------------------|------------------|-------------------|------------------|------------------|------------------|-------------------|
| <b>MO (mm)</b>  | 1 - 7 5/8 (498)   | 1 - 9 5/8 (549)  | 1 - 11 5/8 (600) | 2 - 3 5/8 (702)  | 2 - 5 5/8 (752)  | 2 - 7 5/8 (803)   | 2 - 9 5/8 (854)  | 2 - 11 5/8 (905) | 3 - 3 5/8 (1006) | 3 - 7 5/8 (1108)  |
| <b>RO (mm)</b>  | 1 - 5 (431)       | 1 - 7 (482)      | 1 - 9 (533)      | 2 - 1 (635)      | 2 - 3 (685)      | 2 - 5 (736)       | 2 - 7 (787)      | 2 - 9 (838)      | 3 - 1 (939)      | 3 - 5 (1041)      |
| <b>FS (mm)</b>  | 1 - 4 (406)       | 1 - 6 (457)      | 1 - 8 (508)      | 2 - 0 (609)      | 2 - 2 (660)      | 2 - 4 (711)       | 2 - 6 (762)      | 2 - 8 (812)      | 3 - 0 (914)      | 3 - 4 (1016)      |
| <b>DLO (mm)</b> | 0 - 10 3/16 (259) | 1 - 0 3/16 (310) | 1 - 2 3/16 (360) | 1 - 6 3/16 (462) | 1 - 8 3/16 (513) | 1 - 10 3/16 (564) | 2 - 0 3/16 (614) | 2 - 2 3/16 (665) | 2 - 6 3/16 (767) | 2 - 10 3/16 (868) |

|   |  |  |  |  |  |  |  |  |  |  |
|---|--|--|--|--|--|--|--|--|--|--|
| 1 - 3 7/8 (403)<br>1 - 2 9/16 (370)<br>1 - 2 1/16 (357)<br>0 - 7 21/64 (186)  |  |  |  |  |  |  |  |  |  |  |
| 1 - 5 7/8 (454)<br>1 - 4 9/16 (421)<br>1 - 4 1/16 (408)<br>0 - 9 21/64 (237)  |  |  |  |  |  |  |  |  |  |  |
| 1 - 7 7/8 (505)<br>1 - 6 9/16 (472)<br>1 - 6 1/16 (459)<br>0 - 11 21/64 (288) |  |  |  |  |  |  |  |  |  |  |
| 1 - 9 7/8 (556)<br>1 - 8 9/16 (523)<br>1 - 8 1/16 (510)<br>1 - 1 21/64 (339)  |  |  |  |  |  |  |  |  |  |  |
| 2 - 1 7/8 (657)<br>2 - 9/16 (624)<br>2 - 1/16 (611)<br>1 - 5 21/64 (440)      |  |  |  |  |  |  |  |  |  |  |
| 2 - 5 7/8 (759)<br>2 - 4 9/16 (725)<br>2 - 4 1/16 (713)<br>1 - 9 21/64 (542)  |  |  |  |  |  |  |  |  |  |  |
| 2 - 9 7/8 (860)<br>2 - 8 9/16 (827)<br>2 - 8 1/16 (814)<br>2 - 1 21/64 (643)  |  |  |  |  |  |  |  |  |  |  |
| 3 - 1 7/8 (962)<br>3 - 9/16 (929)<br>3 - 1/16 (916)<br>2 - 5 21/64 (745)      |  |  |  |  |  |  |  |  |  |  |

**WOOD CASEMENT / WOOD CASEMENT PUSH OUT**

|                 |                   |                  |                  |                  |                  |                   |                  |                  |                  |                   |
|-----------------|-------------------|------------------|------------------|------------------|------------------|-------------------|------------------|------------------|------------------|-------------------|
| <b>MO (mm)</b>  | 1 - 7 5/8 (498)   | 1 - 9 5/8 (549)  | 1 - 11 5/8 (600) | 2 - 3 5/8 (702)  | 2 - 5 5/8 (752)  | 2 - 7 5/8 (803)   | 2 - 9 5/8 (854)  | 2 - 11 5/8 (905) | 3 - 3 5/8 (1006) | 3 - 7 5/8 (1108)  |
| <b>RO (mm)</b>  | 1 - 5 (431)       | 1 - 7 (482)      | 1 - 9 (533)      | 2 - 1 (635)      | 2 - 3 (685)      | 2 - 5 (736)       | 2 - 7 (787)      | 2 - 9 (838)      | 3 - 1 (939)      | 3 - 5 (1041)      |
| <b>FS (mm)</b>  | 1 - 4 (406)       | 1 - 6 (457)      | 1 - 8 (508)      | 2 - 0 (609)      | 2 - 2 (660)      | 2 - 4 (711)       | 2 - 6 (762)      | 2 - 8 (812)      | 3 - 0 (914)      | 3 - 4 (1016)      |
| <b>DLO (mm)</b> | 0 - 10 3/16 (259) | 1 - 0 3/16 (310) | 1 - 2 3/16 (360) | 1 - 6 3/16 (462) | 1 - 8 3/16 (513) | 1 - 10 3/16 (564) | 2 - 0 3/16 (614) | 2 - 2 3/16 (665) | 2 - 6 3/16 (767) | 2 - 10 3/16 (868) |

|   |  |  |  |  |  |  |  |  |  |  |
|---|--|--|--|--|--|--|--|--|--|--|
| 3 - 5 7/8 (1064)<br>3 - 4 9/16 (1030)<br>3 - 4 1/16 (1018)<br>2 - 9 21/64 (847)   |  |  |  |  |  |  |  |  |  |  |
| 3 - 9 7/8 (1165)<br>3 - 8 9/16 (1132)<br>3 - 8 1/16 (1119)<br>3 - 1 21/64 (948)   |  |  |  |  |  |  |  |  |  |  |
| 4 - 1 7/8 (1267)<br>4 - 9/16 (1233)<br>4 - 1/16 (1221)<br>3 - 5 21/64 (1050)      |  |  |  |  |  |  |  |  |  |  |
| 4 - 7 7/8 (1419)<br>4 - 6 9/16 (1386)<br>4 - 6 1/16 (1373)<br>3 - 11 21/64 (1202) |  |  |  |  |  |  |  |  |  |  |
| 4 - 9 7/8 (1470)<br>4 - 8 9/16 (1437)<br>4 - 8 1/16 (1424)<br>4 - 1 21/64 (1253)  |  |  |  |  |  |  |  |  |  |  |
| 5 - 1 7/8 (1572)<br>5 - 9/16 (1538)<br>5 - 1/16 (1526)<br>4 - 5 21/64 (1355)      |  |  |  |  |  |  |  |  |  |  |
| 5 - 5 7/8 (1673)<br>5 - 4 9/16 (1640)<br>5 - 4 1/16 (1627)<br>4 - 9 21/64 (1456)  |  |  |  |  |  |  |  |  |  |  |

Details and Elevations not to scale.

- Marvin exclusive wash mode is not available on Ultimate Awning, Ultimate Casement Round Tops or Ultimate Casement Windows less than 20" in width.
- Ultimate Wood Casement Push Out not available in frame size heights less than 16 1/16".
- For units with a tall bottom rail, reduce the DLO height by 1 1/2".

E These windows meet national Egress codes for fire evacuation. Local codes may differ.

Please consult your local Marvin representative for more information. For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

Details and Elevations not to scale.

- Marvin exclusive wash mode is not available on Ultimate Awning, Ultimate Casement Round Tops or Ultimate Casement Windows less than 20" in width.
- For units with a tall bottom rail, reduce the DLO height by 1 1/2".

E These windows meet national Egress codes for fire evacuation. Local codes may differ.

T For safety and/or code requirements, Marvin recommends tempered glass in all units with a frame size height of 72 1/16" or larger and units with a frame size of 25.2 ft² and larger.

Please consult your local Marvin representative for more information. For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

Ultimate Wood Casement: UWCA  
Ultimate Wood Casement Push Out: UWCAPO

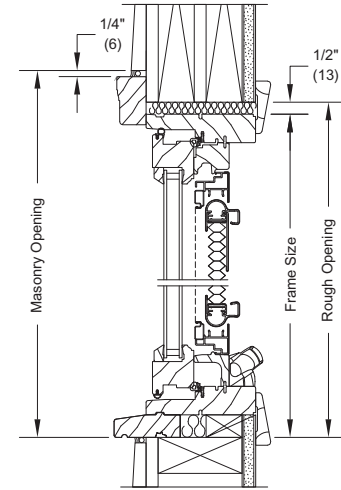
**WOOD CASEMENT / WOOD CASEMENT PUSH OUT**

|                 |                   |                  |                  |                  |                  |                   |                  |                  |                  |                   |
|-----------------|-------------------|------------------|------------------|------------------|------------------|-------------------|------------------|------------------|------------------|-------------------|
| <b>MO (mm)</b>  | 1 - 7 5/8 (498)   | 1 - 9 5/8 (549)  | 1 - 11 5/8 (600) | 2 - 3 5/8 (702)  | 2 - 5 5/8 (752)  | 2 - 7 5/8 (803)   | 2 - 9 5/8 (854)  | 2 - 11 5/8 (905) | 3 - 3 5/8 (1006) | 3 - 7 5/8 (1108)  |
| <b>RO (mm)</b>  | 1 - 5 (431)       | 1 - 7 (482)      | 1 - 9 (533)      | 2 - 1 (635)      | 2 - 3 (685)      | 2 - 5 (736)       | 2 - 7 (787)      | 2 - 9 (838)      | 3 - 1 (939)      | 3 - 5 (1041)      |
| <b>FS (mm)</b>  | 1 - 4 (406)       | 1 - 6 (457)      | 1 - 8 (508)      | 2 - 0 (609)      | 2 - 2 (660)      | 2 - 4 (711)       | 2 - 6 (762)      | 2 - 8 (812)      | 3 - 0 (914)      | 3 - 4 (1016)      |
| <b>DLO (mm)</b> | 0 - 10 3/16 (259) | 1 - 0 3/16 (310) | 1 - 2 3/16 (360) | 1 - 6 3/16 (462) | 1 - 8 3/16 (513) | 1 - 10 3/16 (564) | 2 - 0 3/16 (614) | 2 - 2 3/16 (665) | 2 - 6 3/16 (767) | 2 - 10 3/16 (868) |

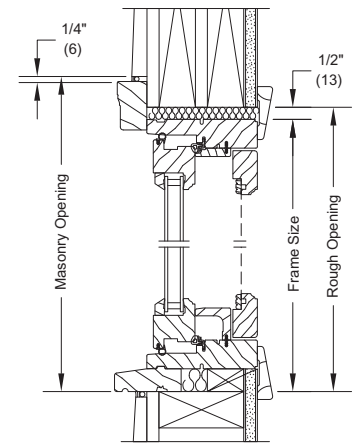
|  |                            |                            |                            |                            |                            |                              |                              |                              |                              |                              |
|--|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 6 - 1 7/8 (1876)<br>6 - 9/16 (1643)<br>6 - 11/16 (1830)<br>5 - 5 21/64 (1659)      |                            |                            |                            |                            |                            |                              |                              |                              |                              |                              |
|  | UWCA1672 T<br>UWCAPO1672 T | UWCA1872 T<br>UWCAPO1872 T | UWCA2072 T<br>UWCAPO2072 T | UWCA2472 T<br>UWCAPO2472 T | UWCA2672 T<br>UWCAPO2672 T | UWCA2872 ET<br>UWCAPO2872 ET | UWCA3072 ET<br>UWCAPO3072 ET | UWCA3272 ET<br>UWCAPO3272 ET | UWCA3672 ET<br>UWCAPO3672 ET | UWCA4072 ET<br>UWCAPO4072 ET |
| 6 - 7 7/8 (2029)<br>6 - 6 9/16 (1995)<br>6 - 6 11/16 (1983)<br>5 - 11 21/64 (1812) |                            |                            |                            |                            |                            |                              |                              |                              |                              |                              |
|  | UWCA1678 T<br>UWCAPO1678 T | UWCA1878 T<br>UWCAPO1878 T | UWCA2078 T<br>UWCAPO2078 T | UWCA2478 T<br>UWCAPO2478 T | UWCA2678 T<br>UWCAPO2678 T | UWCA2878 ET<br>UWCAPO2878 ET | UWCA3078 ET<br>UWCAPO3078 ET | UWCA3278 ET<br>UWCAPO3278 ET | UWCA3678 ET<br>UWCAPO3678 ET | UWCA4078 ET<br>UWCAPO4078 ET |
| 7 - 1 7/8 (2181)<br>7 - 9/16 (2148)<br>7 - 11/16 (2135)<br>6 - 5 21/64 (1964)      |                            |                            |                            |                            |                            |                              |                              |                              |                              |                              |
|  | UWCA1684 T<br>UWCAPO1684 T | UWCA1884 T<br>UWCAPO1884 T | UWCA2084 T<br>UWCAPO2084 T | UWCA2484 T<br>UWCAPO2484 T | UWCA2684 T<br>UWCAPO2684 T | UWCA2884 ET<br>UWCAPO2884 ET | UWCA3084 ET<br>UWCAPO3084 ET | UWCA3284 ET<br>UWCAPO3284 ET | UWCA3684 ET<br>UWCAPO3684 ET | UWCA4084 ET<br>UWCAPO4084 ET |
| 7 - 9 7/8 (2384)<br>7 - 8 9/16 (2351)<br>7 - 8 11/16 (2338)<br>7 - 1 21/64 (2167)  |                            |                            |                            |                            |                            |                              |                              |                              |                              |                              |
|  | UWCA1692 T<br>UWCAPO1692 T | UWCA1892 T<br>UWCAPO1892 T | UWCA2092 T<br>UWCAPO2092 T | UWCA2492 T<br>UWCAPO2492 T | UWCA2692 T<br>UWCAPO2692 T | UWCA2892 ET<br>UWCAPO2892 ET | UWCA3092 ET<br>UWCAPO3092 ET | UWCA3292 ET<br>UWCAPO3292 ET | UWCA3692 ET<br>UWCAPO3692 ET | UWCA4092 ET<br>UWCAPO4092 ET |
| 8 - 1 7/8 (2486)<br>8 - 9/16 (2453)<br>8 - 11/16 (2440)<br>7 - 5 21/64 (2269)      |                            |                            |                            |                            |                            |                              |                              |                              |                              |                              |
|  | UWCA1696 T<br>UWCAPO1696 T | UWCA1896 T<br>UWCAPO1896 T | UWCA2096 T<br>UWCAPO2096 T | UWCA2496 T<br>UWCAPO2496 T | UWCA2696 T<br>UWCAPO2696 T | UWCA2896 ET<br>UWCAPO2896 ET | UWCA3096 ET<br>UWCAPO3096 ET | UWCA3296 ET<br>UWCAPO3296 ET | UWCA3696 ET<br>UWCAPO3696 ET |                              |

**WOOD CASEMENT / WOOD CASEMENT PUSH OUT**

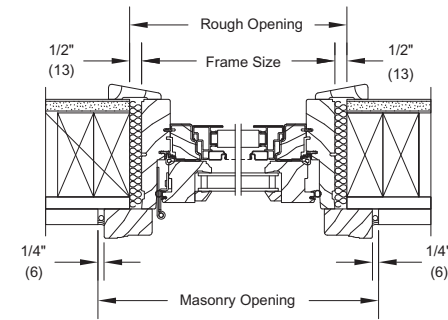
CONSTRUCTION DETAILS



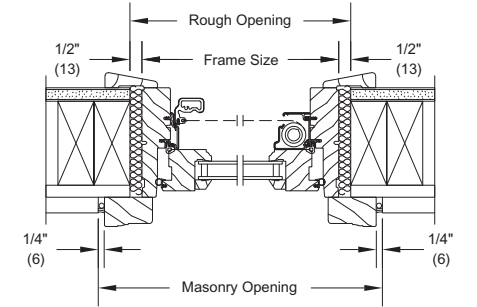
HEAD JAMB AND SILL - OPERATOR WITH OPTIONAL INTERIOR SHADES



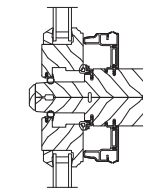
PUSH OUT HEAD JAMB AND SILL - OPERATOR WITH OPTIONAL SCREEN



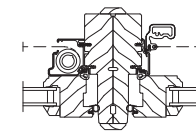
JAMB - OPERATOR



PUSH OUT JAMB - OPERATOR WITH OPTIONAL RETRACTABLE SCREEN



HORIZONTAL MULLION OPERATOR



VERTICAL MULLION OPERATOR WITH OPTIONAL RETRACTABLE SCREEN

CASEMENT / CASEMENT PUSH OUT

| MO (mm)           | 1 - 4 1/2 (419)    | 1 - 6 1/2 (469)   | 1 - 8 1/2 (520)   | 2 - 1/2 (622)     | 2 - 2 1/2 (673)   | 2 - 4 1/2 (723)    | 2 - 6 1/2 (774)   | 2 - 8 1/2 (825)   | 3 - 1/2 (927)     | 3 - 4 1/2 (1028)   |
|-------------------|--------------------|-------------------|-------------------|-------------------|-------------------|--------------------|-------------------|-------------------|-------------------|--------------------|
| RO (mm)           | 1 - 5 (431)        | 1 - 7 (482)       | 1 - 9 (533)       | 2 - 1 (635)       | 2 - 3 (685)       | 2 - 5 (736)        | 2 - 7 (787)       | 2 - 9 (838)       | 3 - 1 (939)       | 3 - 5 (1041)       |
| FS (mm)           | 1 - 4 (406)        | 1 - 6 (457)       | 1 - 8 (508)       | 2 - 0 (609)       | 2 - 2 (660)       | 2 - 4 (711)        | 2 - 6 (762)       | 2 - 8 (812)       | 3 - 0 (914)       | 3 - 4 (1016)       |
| DLO (mm)          | 0 - 10 13/64 (259) | 1 - 0 13/64 (310) | 1 - 2 13/64 (361) | 1 - 6 13/64 (462) | 1 - 8 13/64 (513) | 1 - 10 13/64 (564) | 2 - 0 13/64 (615) | 2 - 2 13/64 (666) | 2 - 6 13/64 (767) | 2 - 10 13/64 (869) |
| 1 - 1 3/8 (339)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 1 - 1 5/8 (346)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 1 - 3 3/8 (390)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 1 - 3 5/8 (396)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 1 - 5 3/8 (441)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 1 - 5 5/8 (447)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 1 - 7 3/8 (492)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 1 - 7 5/8 (498)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 1 - 7 7/8 (504)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 1 - 7 1/8 (485)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 1 - 1 21/64 (339) |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 1 - 1 5/8 (593)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 1 - 1 7/8 (600)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 1 - 1 9/8 (587)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 1 - 5 21/64 (440) |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 2 - 3 3/8 (695)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 2 - 3 5/8 (701)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 2 - 3 7/8 (688)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 1 - 9 21/64 (542) |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 2 - 7 3/8 (796)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 2 - 7 5/8 (803)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 2 - 7 7/8 (790)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 2 - 1 21/64 (643) |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 2 - 11 3/8 (898)  |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 2 - 11 5/8 (904)  |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 2 - 11 7/8 (892)  |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 2 - 5 21/64 (745) |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 3 - 3 3/8 (1000)  |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 3 - 3 5/8 (1006)  |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 3 - 3 7/8 (993)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 2 - 9 21/64 (647) |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |

CASEMENT / CASEMENT PUSH OUT

| MO (mm)             | 1 - 4 1/2 (419)    | 1 - 6 1/2 (469)   | 1 - 8 1/2 (520)   | 2 - 1/2 (622)     | 2 - 2 1/2 (673)   | 2 - 4 1/2 (723)    | 2 - 6 1/2 (774)   | 2 - 8 1/2 (825)   | 3 - 1/2 (927)     | 3 - 4 1/2 (1028)   |
|---------------------|--------------------|-------------------|-------------------|-------------------|-------------------|--------------------|-------------------|-------------------|-------------------|--------------------|
| RO (mm)             | 1 - 5 (431)        | 1 - 7 (482)       | 1 - 9 (533)       | 2 - 1 (635)       | 2 - 3 (685)       | 2 - 5 (736)        | 2 - 7 (787)       | 2 - 9 (838)       | 3 - 1 (939)       | 3 - 5 (1041)       |
| FS (mm)             | 1 - 4 (406)        | 1 - 6 (457)       | 1 - 8 (508)       | 2 - 0 (609)       | 2 - 2 (660)       | 2 - 4 (711)        | 2 - 6 (762)       | 2 - 8 (812)       | 3 - 0 (914)       | 3 - 4 (1016)       |
| DLO (mm)            | 0 - 10 13/64 (259) | 1 - 0 13/64 (310) | 1 - 2 13/64 (361) | 1 - 6 13/64 (462) | 1 - 8 13/64 (513) | 1 - 10 13/64 (564) | 2 - 0 13/64 (615) | 2 - 2 13/64 (666) | 2 - 6 13/64 (767) | 2 - 10 13/64 (869) |
| 3 - 7 3/8 (1101)    |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 3 - 7 5/8 (1108)    |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 3 - 7 7/8 (1196)    |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 3 - 5 21/64 (1050)  |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 4 - 5 3/8 (1355)    |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 4 - 5 5/8 (1362)    |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 4 - 5 7/8 (1349)    |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 3 - 11 21/64 (1202) |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 4 - 7 3/8 (1406)    |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 4 - 7 5/8 (1412)    |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 4 - 7 7/8 (1400)    |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 4 - 1 21/64 (1253)  |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 4 - 11 3/8 (1508)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 4 - 11 5/8 (1514)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 4 - 11 7/8 (1501)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 4 - 5 21/64 (1355)  |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 5 - 3 3/8 (1609)    |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 5 - 3 5/8 (1616)    |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 5 - 3 7/8 (1603)    |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 4 - 9 21/64 (1456)  |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 5 - 11 3/8 (1812)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 5 - 11 5/8 (1819)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 5 - 11 7/8 (1806)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
| 5 - 5 21/64 (1659)  |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |

Details and Elevations not to scale.

- Marvin exclusive wash mode is not available on Ultimate Awnings, Ultimate Casement Round Tops or Ultimate Casement Windows less than 20" in width.
- Ultimate Casement Push Out not available in frame size heights less than 15 1/8"
- For units with a tall bottom rail, reduce the DLO height by 1 1/2".

E These windows meet national Egress codes for fire evacuation. Local codes may differ.

T For safety and/or code requirements, Marvin recommends tempered glass in all units with a frame size height of 71 1/8" or larger and units with a frame size of 25.2 ft² and larger.

Please consult your local Marvin representative for more information. For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

Ultimate Casement: UCA  
 Ultimate Casement Push Out: UCAPO

CASEMENT / CASEMENT PUSH OUT

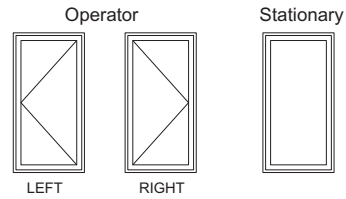
|          |                    |                   |                   |                   |                   |                    |                   |                   |                   |                    |
|----------|--------------------|-------------------|-------------------|-------------------|-------------------|--------------------|-------------------|-------------------|-------------------|--------------------|
| MO (mm)  | 1 - 4 1/2 (419)    | 1 - 6 1/2 (469)   | 1 - 8 1/2 (520)   | 2 - 1/2 (622)     | 2 - 2 1/2 (673)   | 2 - 4 1/2 (723)    | 2 - 6 1/2 (774)   | 2 - 8 1/2 (825)   | 3 - 1/2 (927)     | 3 - 4 1/2 (1028)   |
| RO (mm)  | 1 - 5 (431)        | 1 - 7 (482)       | 1 - 9 (533)       | 2 - 1 (635)       | 2 - 3 (685)       | 2 - 5 (736)        | 2 - 7 (787)       | 2 - 9 (838)       | 3 - 1 (939)       | 3 - 5 (1041)       |
| FS (mm)  | 1 - 4 (406)        | 1 - 6 (457)       | 1 - 8 (508)       | 2 - 0 (609)       | 2 - 2 (660)       | 2 - 4 (711)        | 2 - 6 (762)       | 2 - 8 (812)       | 3 - 0 (914)       | 3 - 4 (1016)       |
| DLO (mm) | 0 - 10 13/64 (259) | 1 - 0 13/64 (310) | 1 - 2 13/64 (361) | 1 - 6 13/64 (462) | 1 - 8 13/64 (513) | 1 - 10 13/64 (564) | 2 - 0 13/64 (615) | 2 - 2 13/64 (666) | 2 - 6 13/64 (767) | 2 - 10 13/64 (869) |

|   |                          |                          |                          |                          |                          |                            |                            |                            |                            |                            |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 6 - 5 3/8 (1965)<br>6 - 5 5/8 (1971)<br>6 - 5 7/8 (1958)<br>5 - 11 27/64 (1812)   |                          |                          |                          |                          |                          |                            |                            |                            |                            |                            |
|   | UCA1678 T<br>UCAPO1678 T | UCA1878 T<br>UCAPO1878 T | UCA2078 T<br>UCAPO2078 T | UCA2478 T<br>UCAPO2478 T | UCA2678 T<br>UCAPO2678 T | UCA2878 ET<br>UCAPO2878 ET | UCA3078 ET<br>UCAPO3078 ET | UCA3278 ET<br>UCAPO3278 ET | UCA3678 ET<br>UCAPO3678 ET | UCA4078 ET<br>UCAPO4078 ET |
| 6 - 11 3/8 (2117)<br>6 - 11 5/8 (2124)<br>6 - 11 7/8 (2111)<br>6 - 5 21/64 (1964) |                          |                          |                          |                          |                          |                            |                            |                            |                            |                            |
|   | UCA1684 T<br>UCAPO1684 T | UCA1884 T<br>UCAPO1884 T | UCA2084 T<br>UCAPO2084 T | UCA2484<br>UCAPO2484     | UCA2684 T<br>UCAPO2684 T | UCA2884 ET<br>UCAPO2884 ET | UCA3084 ET<br>UCAPO3084 ET | UCA3284 ET<br>UCAPO3284 ET | UCA3684 ET<br>UCAPO3684 ET | UCA4084 ET<br>UCAPO4084 ET |
| 7 - 7 3/8 (2320)<br>7 - 7 5/8 (2327)<br>7 - 7 7/8 (2314)<br>7 - 1 21/64 (2167)    |                          |                          |                          |                          |                          |                            |                            |                            |                            |                            |
|   | UCA1692 T<br>UCAPO1692 T | UCA1892 T<br>UCAPO1892 T | UCA2092 T<br>UCAPO2092 T | UCA2492 T<br>UCAPO2492 T | UCA2692 T<br>UCAPO2692 T | UCA2892 ET<br>UCAPO2892 ET | UCA3092 ET<br>UCAPO3092 ET | UCA3292 ET<br>UCAPO3292 ET | UCA3692 ET<br>UCAPO3692 ET | UCA4092 ET<br>UCAPO4092 ET |
| 7 - 11 3/8 (2422)<br>7 - 11 5/8 (2428)<br>7 - 11 7/8 (2416)<br>7 - 5 21/64 (2269) |                          |                          |                          |                          |                          |                            |                            |                            |                            |                            |
|   | UCA1696 T<br>UCAPO1696 T | UCA1896 T<br>UCAPO1896 T | UCA2096 T<br>UCAPO2096 T | UCA2496 T<br>UCAPO2496 T | UCA2696 T<br>UCAPO2696 T | UCA2896 ET<br>UCAPO2896 ET | UCA3096 ET<br>UCAPO3096 ET | UCA3296 ET<br>UCAPO3296 ET | UCA3696 ET<br>UCAPO3696 ET |                            |

Construction Details

Casements available as an operator or stationary.

L or R handing determined from exterior.

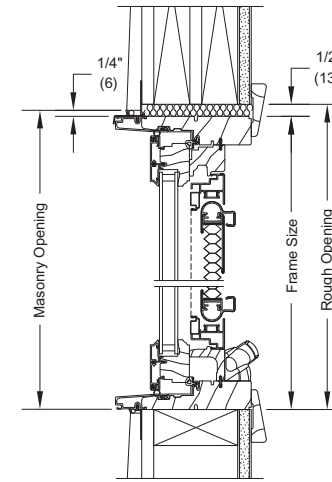


CASEMENT STANDARD OPERATION AS VIEWED FROM THE OUTSIDE

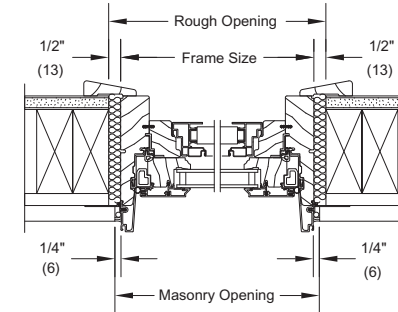


CASEMENT / CASEMENT PUSH OUT

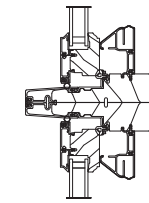
CONSTRUCTION DETAILS



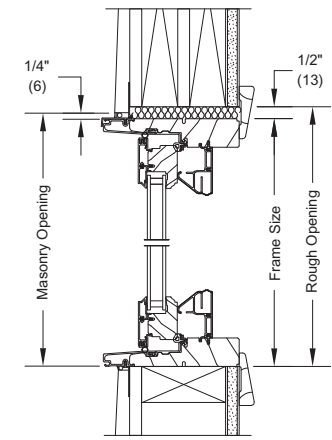
HEAD JAMB AND SILL - OPERATOR WITH OPTIONAL INTERIOR SHADES



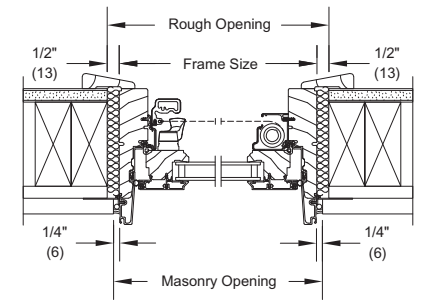
JAMB - OPERATOR WITH SHADE



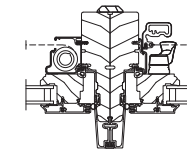
HORIZONTAL MULLION OPERATOR



PUSH OUT HEAD JAMB AND SILL - OPERATOR




PUSH OUT JAMB - OPERATOR WITH RETRACTABLE SHADE



VERTICAL MULLION OPERATOR WITH OPTIONAL RETRACTABLE SCREEN





















**WOOD FRENCH CASEMENT / WOOD FRENCH CASEMENT PUSH OUT**

|                 |                   |                   |                   |                    |                   |
|-----------------|-------------------|-------------------|-------------------|--------------------|-------------------|
| <b>MO (mm)</b>  | 3 - 3 5/8 (1007)  | 3 - 7 5/8 (1108)  | 4 - 3 5/8 (1311)  | 4 - 11 5/8 (1515)  | 5 - 3 5/8 (1616)  |
| <b>RO (mm)</b>  | 3 - 1 (940)       | 3 - 5 (1041)      | 4 - 1 (1245)      | 4 - 9 (1448)       | 5 - 1 (1549)      |
| <b>FS (mm)</b>  | 3 - 0 (914)       | 3 - 4 (1016)      | 4 - 0 (1219)      | 4 - 8 (1422)       | 5 - 0 (1524)      |
| <b>DLO (mm)</b> | 1 - 0 55/64 (327) | 1 - 2 55/64 (378) | 1 - 6 55/64 (479) | 1 - 10 55/64 (581) | 2 - 0 55/64 (632) |

|   |  |   |   |   |   |
|---|--|---|---|---|---|
| 2 - 9 7/8 (860)<br>2 - 8 9/16 (827)<br>2 - 8 1/16 (814)<br>2 - 1 12/64 (643)      | <br>UWFCAPO3632     | <br>UWFCA4032<br>UWFCAPO4032       | <br>UWFCA4832 E<br>UWFCAPO4832 E   | <br>UWFCA5632 E<br>UWFCAPO5632 E   | <br>UWFCA6032 E<br>UWFCAPO6032 E   |
| 3 - 1 7/8 (962)<br>3 - 9/16 (829)<br>3 - 1/16 (916)<br>2 - 5 21/64 (745)          | <br>UWFCAPO3636     | <br>UWFCA4036<br>UWFCAPO4036 E     | <br>UWFCA4836 E<br>UWFCAPO4836 E   | <br>UWFCA5636 E<br>UWFCAPO5636 E   | <br>UWFCA6036 E<br>UWFCAPO6036 E   |
| 3 - 5 7/8 (1064)<br>3 - 4 9/16 (1030)<br>3 - 4 1/16 (1018)<br>2 - 9 21/64 (847)   | <br>UWFCAPO3640     | <br>UWFCA4040 E<br>UWFCAPO4040 E   | <br>UWFCA4840 E<br>UWFCAPO4840 E   | <br>UWFCA5640 E<br>UWFCAPO5640 E   | <br>UWFCA6040 E<br>UWFCAPO6040 E   |
| 3 - 9 7/8 (1165)<br>3 - 8 9/16 (1132)<br>3 - 8 1/16 (1119)<br>3 - 1 21/64 (948)   | <br>UWFCAPO3644     | <br>UWFCA4044 E<br>UWFCAPO4044 E   | <br>UWFCA4844 E<br>UWFCAPO4844 E   | <br>UWFCA5644 E<br>UWFCAPO5644 E   | <br>UWFCA6044 E<br>UWFCAPO6044 E   |
| 4 - 1 7/8 (1267)<br>4 - 9/16 (1234)<br>4 - 1/16 (1221)<br>3 - 5 21/64 (1050)      | <br>UWFCAPO3648 E | <br>UWFCA4048 E<br>UWFCAPO4048 E | <br>UWFCA4848 E<br>UWFCAPO4848 E | <br>UWFCA5648 E<br>UWFCAPO5648 E | <br>UWFCA6048 E<br>UWFCAPO6048 E |
| 4 - 7 7/8 (1419)<br>4 - 6 9/16 (1386)<br>4 - 6 1/16 (1373)<br>3 - 11 21/64 (1202) | <br>UWFCAPO3654 E | <br>UWFCA4054 E<br>UWFCAPO4054 E | <br>UWFCA4854 E<br>UWFCAPO4854 E | <br>UWFCA5654 E<br>UWFCAPO5654 E | <br>UWFCA6054 E<br>UWFCAPO6054 E |

**WOOD FRENCH CASEMENT / WOOD FRENCH CASEMENT PUSH OUT**

|                 |                   |                   |                   |                    |                   |
|-----------------|-------------------|-------------------|-------------------|--------------------|-------------------|
| <b>MO (mm)</b>  | 3 - 3 5/8 (1007)  | 3 - 7 5/8 (1108)  | 4 - 3 5/8 (1108)  | 4 - 11 5/8 (1515)  | 5 - 3 5/8 (1616)  |
| <b>RO (mm)</b>  | 3 - 1 (940)       | 3 - 5 (1041)      | 4 - 1 (1245)      | 4 - 9 (1448)       | 5 - 1 (1549)      |
| <b>FS (mm)</b>  | 3 - 0 (914)       | 3 - 4 (1016)      | 4 - 0 (1219)      | 4 - 8 (1422)       | 5 - 0 (1524)      |
| <b>DLO (mm)</b> | 1 - 0 55/64 (327) | 1 - 2 55/64 (378) | 1 - 6 55/64 (479) | 1 - 10 55/64 (581) | 2 - 0 55/64 (632) |

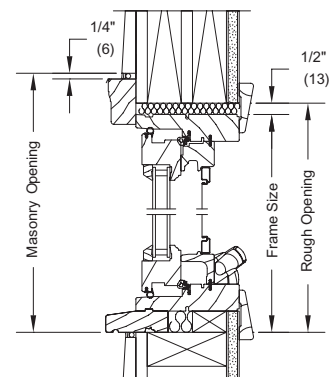
|  |   |   |   |   |   |
|--|---|---|---|---|---|
| 4 - 9 7/8 (1470)<br>4 - 8 9/16 (1437)<br>4 - 8 1/16 (1424)<br>4 - 1 21/64 (1253) | <br>UWFCAPO3656 E    | <br>UWFCA4056 E<br>UWFCAPO4056 E     | <br>UWFCA4856 E<br>UWFCAPO4856 E     | <br>UWFCA5656 E<br>UWFCAPO5656 E     | <br>UWFCA6056 E<br>UWFCAPO6056 E     |
| 5 - 1 7/8 (1572)<br>5 - 9/16 (1538)<br>5 - 1/16 (1526)<br>4 - 5 21/64 (1355)     | <br>UWFCAPO3660 E    | <br>UWFCA4060 E<br>UWFCAPO4060 E     | <br>UWFCA4860 E<br>UWFCAPO4860 E     | <br>UWFCA5660 E<br>UWFCAPO5660 E     | <br>UWFCA6060 E<br>UWFCAPO6060 E     |
| 5 - 5 7/8 (1673)<br>5 - 4 9/16 (1640)<br>5 - 4 1/16 (1627)<br>4 - 9 21/64 (1456) | <br>UWFCAPO3664 E    | <br>UWFCA4064 E<br>UWFCAPO4064 E     | <br>UWFCA4864 E<br>UWFCAPO4864 E     | <br>UWFCA5664 E<br>UWFCAPO5664 E     | <br>UWFCA6064 E<br>UWFCAPO6064 E     |
| 6 - 1 7/8 (1876)<br>6 - 9/16 (1843)<br>6 - 1/16 (1830)<br>5 - 5 21/64 (1659)     | <br>UWFCAPO3672 ET | <br>UWFCA4072 ET<br>UWFCAPO4072 ET | <br>UWFCA4872 ET<br>UWFCAPO4872 ET | <br>UWFCA5672 ET<br>UWFCAPO5672 ET | <br>UWFCA6072 ET<br>UWFCAPO6072 ET |

Details and Elevations not to scale.  
 E These windows meet national Egress codes for fire evacuation.  
 Local codes may differ.  
 T For safety and/or code requirements, Marvin recommends tempered glass in all units with a frame size height of 72 1/16" or larger and units with a frame size of 25.2 ft<sup>2</sup> and larger.  
 Please consult your local Marvin representative for more information.  
 For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

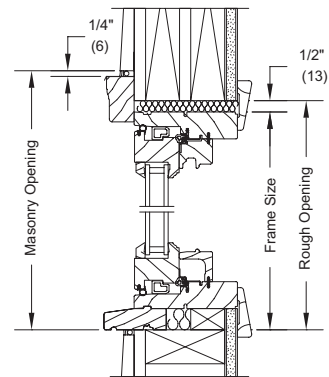
Ultimate Wood French Casement: UWFCA  
 Ultimate Wood French Casement Push Out: UWFCAPO

# WOOD FRENCH CASEMENT

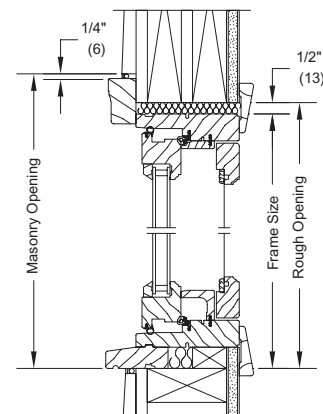
## CONSTRUCTION DETAILS



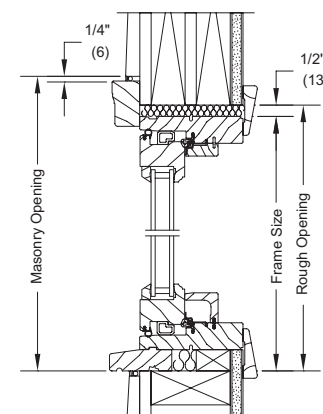
HEAD JAMB AND SILL - OPERATOR



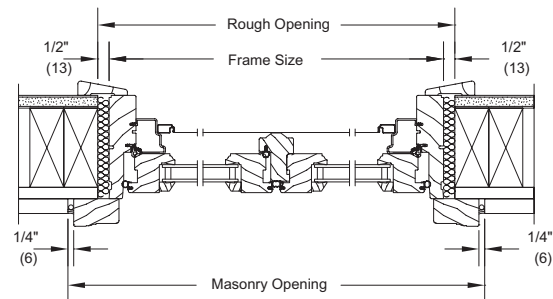
HEAD JAMB AND SILL - STATIONARY



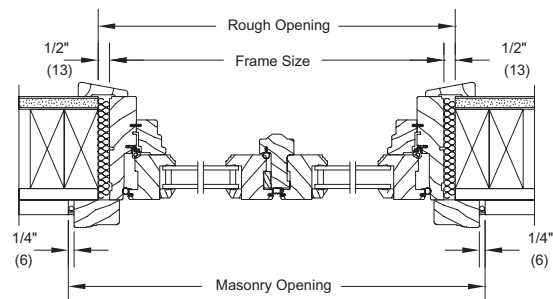
HEAD JAMB AND SILL - OPERATOR WITH SCREEN OPTION



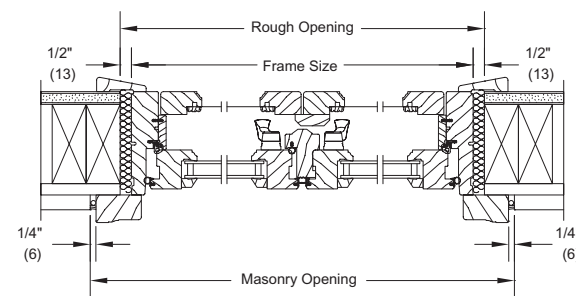
HEAD JAMB AND SILL - STATIONARY



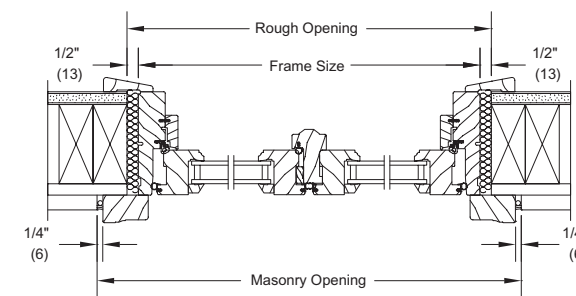
JAMB - OPERATOR



JAMB - STATIONARY



JAMB - OPERATOR WITH SCREEN OPTION



JAMB - STATIONARY

**FRENCH CASEMENT / FRENCH CASEMENT PUSH OUT**

| MO (mm)  | 3 - 0 1/2 (927)   | 3 - 4 1/2 (1029)               | 4 - 0 1/2 (1232)               | 4 - 8 1/2 (1435)               | 5 - 0 1/2 (1537)               |
|--|-------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| RO (mm)  | 3 - 1 (940)       | 3 - 5 (1041)                   | 4 - 1 (1245)                   | 4 - 9 (1448)                   | 5 - 1 (1549)                   |
| FS (mm)  | 3 - 0 (914)       | 3 - 4 (1016)                   | 4 - 0 (1219)                   | 4 - 8 (1422)                   | 5 - 0 (1524)                   |
| DLO (mm)   | 1 - 0 55/64 (327) | 1 - 2 55/64 (378)              | 1 - 6 55/64 (479)              | 1 - 10 55/64 (581)             | 12 - 0 55/64 (632)             |
| 2 - 7 3/8 (797)<br>2 - 7 5/8 (803)<br>2 - 7 1/8 (791)<br>2 - 2 9/32 (688)        | <br>UFCAP03632    | <br>UFCA4032<br>UFCAP04032     | <br>UFCA4832 E<br>UFCAP04832 E | <br>UFCA5632 E<br>UFCAP05632 E | <br>UFCA6032 E<br>UFCAP06032 E |
| 2 - 11 3/8 (899)<br>2 - 11 5/8 (905)<br>2 - 11 1/8 (892)<br>2 - 6 9/32 (769)     | <br>UFCAP03636    | <br>UFCA4036<br>UFCAP04036     | <br>UFCA4836 E<br>UFCAP04836 E | <br>UFCA5636 E<br>UFCAP05636 E | <br>UFCA6036 E<br>UFCAP06036 E |
| 3 - 3 3/8 (1000)<br>3 - 3 5/8 (1006)<br>3 - 3 1/8 (994)<br>2 - 10 9/32 (871)     | <br>UFCAP03640    | <br>UFCA4040 E<br>UFCAP04040 E | <br>UFCA4840 E<br>UFCAP04840 E | <br>UFCA5640 E<br>UFCAP05640 E | <br>UFCA6040 E<br>UFCAP06040 E |
| 3 - 7 3/8 (1102)<br>3 - 7 5/8 (1108)<br>3 - 7 1/8 (1096)<br>3 - 2 9/32 (972)     | <br>UFCAP03644    | <br>UFCA4044 E<br>UFCAP04044 E | <br>UFCA4844 E<br>UFCAP04844 E | <br>UFCA5644 E<br>UFCAP05644 E | <br>UFCA6044 E<br>UFCAP06044 E |
| 3 - 11 3/8 (1203)<br>3 - 11 5/8 (1210)<br>3 - 11 1/8 (1197)<br>3 - 6 9/32 (1074) | <br>UFCAP03648 E  | <br>UFCA4048 E<br>UFCAP04048 E | <br>UFCA4848 E<br>UFCAP04848 E | <br>UFCA5648 E<br>UFCAP05648 E | <br>UFCA6048 E<br>UFCAP06048 E |
| 4 - 5 3/8 (1356)<br>4 - 5 5/8 (1362)<br>4 - 5 1/8 (1349)<br>4 - 0 9/32 (1226)    | <br>UFCAP03654 E  | <br>UFCA4054 E<br>UFCAP04054 E | <br>UFCA4854 E<br>UFCAP04854 E | <br>UFCA5654 E<br>UFCAP05654 E | <br>UFCA6054 E<br>UFCAP06054 E |

**FRENCH CASEMENT / FRENCH CASEMENT PUSH OUT**

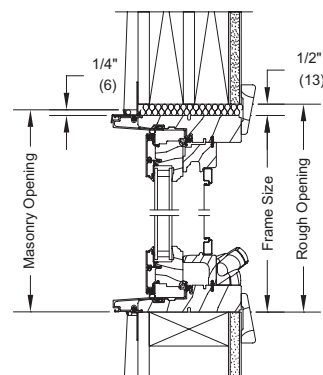
| MO (mm)  | 3 - 0 1/2 (927)   | 3 - 4 1/2 (1029)                 | 4 - 0 1/2 (1232)                 | 4 - 8 1/2 (1435)                 | 5 - 0 1/2 (1537)                 |
|--|-------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| RO (mm)  | 3 - 1 (940)       | 3 - 5 (1041)                     | 4 - 1 (1245)                     | 4 - 9 (1448)                     | 5 - 1 (1549)                     |
| FS (mm)  | 3 - 0 (914)       | 3 - 4 (1016)                     | 4 - 0 (1219)                     | 4 - 8 (1422)                     | 5 - 0 (1524)                     |
| DLO (mm)   | 1 - 0 55/64 (327) | 1 - 2 55/64 (378)                | 1 - 6 55/64 (479)                | 1 - 10 55/64 (581)               | 12 - 0 55/64 (632)               |
| 4 - 7 3/8 (1407)<br>4 - 7 5/8 (1413)<br>4 - 7 1/8 (1400)<br>4 - 2 9/32 (1277)    | <br>UFCAP03656 E  | <br>UFCA4056 E<br>UFCAP04056 E   | <br>UFCA4856 E<br>UFCAP04856 E   | <br>UFCA5656 E<br>UFCAP05656 E   | <br>UFCA6056 E<br>UFCAP06056 E   |
| 4 - 11 3/8 (1508)<br>4 - 11 5/8 (1514)<br>4 - 11 1/8 (1502)<br>4 - 6 9/32 (1379) | <br>UFCAP03660 E  | <br>UFCA4060 E<br>UFCAP04060 E   | <br>UFCA4860 E<br>UFCAP04860 E   | <br>UFCA5660 E<br>UFCAP05660 E   | <br>UFCA6060 E<br>UFCAP06060 E   |
| 5 - 3 3/8 (1610)<br>5 - 3 5/8 (1616)<br>5 - 3 1/8 (1603)<br>4 - 10 9/32 (1480)   | <br>UFCAP03664 E  | <br>UFCA4064 E<br>UFCAP04064 E   | <br>UFCA4864 E<br>UFCAP04864 E   | <br>UFCA5664 E<br>UFCAP05664 E   | <br>UFCA6064 E<br>UFCAP06064 E   |
| 5 - 11 3/8 (1813)<br>5 - 11 5/8 (1819)<br>5 - 11 1/8 (1807)<br>5 - 6 9/32 (1684) | <br>UFCAP03672 ET | <br>UFCA4072 ET<br>UFCAP04072 ET | <br>UFCA4872 ET<br>UFCAP04872 ET | <br>UFCA5672 ET<br>UFCAP05672 ET | <br>UFCA6072 ET<br>UFCAP06072 ET |

Details and Elevations not to scale.  
 E These windows meet national Egress codes for fire evacuation.  
 Local codes may differ.  
 T For safety and/or code requirements, Marvin recommends tempered glass in all units with a frame size height of 72 1/16" or larger and units with a frame size of 25.2 ft² and larger.  
 Please consult your local Marvin representative for more information.  
 For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

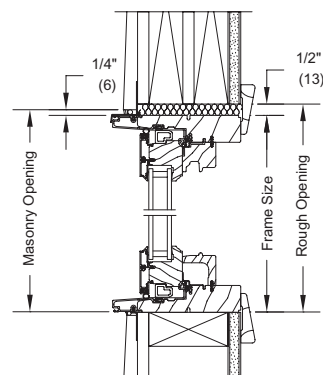
Ultimate French Casement: UFCA  
 Ultimate French Casement Push Out: UFCAP0

# FRENCH CASEMENT

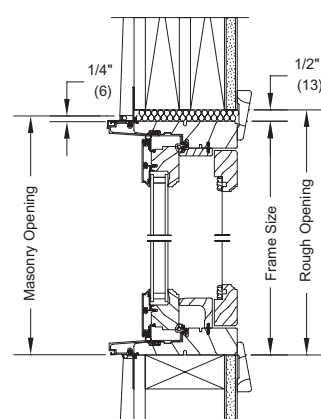
## CONSTRUCTION DETAILS



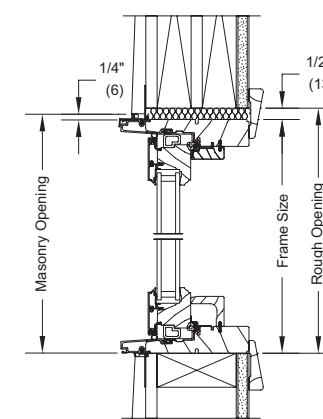
HEAD JAMB AND SILL - OPERATOR



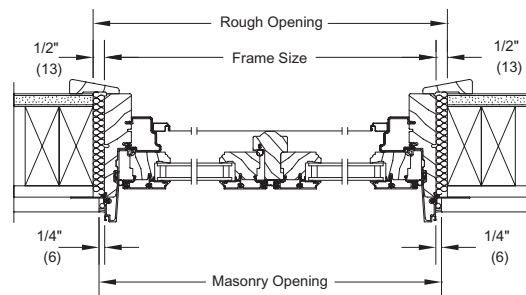
HEAD JAMB AND SILL - STATIONARY



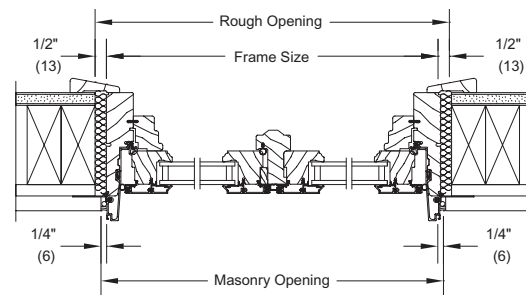
HEAD JAMB AND SILL - OPERATOR WITH SCREEN OPTION



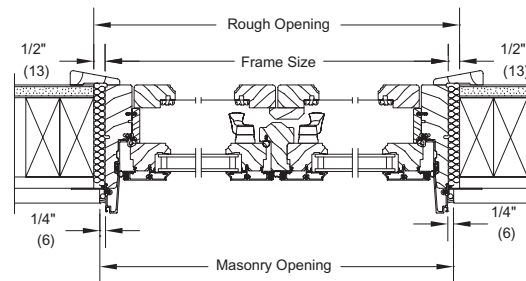
HEAD JAMB AND SILL - STATIONARY WITH SCREEN OPTION



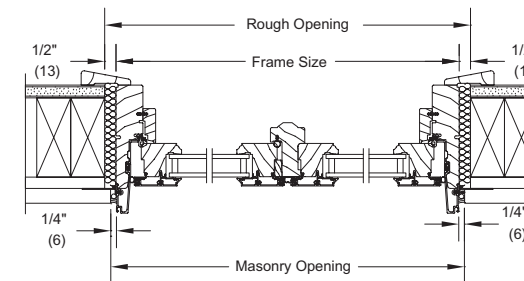
JAMB - OPERATOR



JAMB - STATIONARY



JAMB - STATIONARY WITH SCREEN OPTION



JAMB - STATIONARY

WOOD AWNING / WOOD AWNING PUSH OUT

| MO (mm)            | 1 - 7 5/8 (498)    | 1 - 9 5/8 (549)   | 1 - 11 5/8 (600)  | 2 - 3 5/8 (702)   | 2 - 5 5/8 (752)   | 2 - 7 5/8 (803)    | 2 - 9 5/8 (854)   | 2 - 11 5/8 (905)  | 3 - 3 5/8 (1006)  |
|--------------------|--------------------|-------------------|-------------------|-------------------|-------------------|--------------------|-------------------|-------------------|-------------------|
| RO (mm)            | 1 - 5 (431)        | 1 - 7 (482)       | 1 - 9 (533)       | 2 - 1 (635)       | 2 - 3 (685)       | 2 - 5 (736)        | 2 - 7 (787)       | 2 - 9 (838)       | 3 - 1 (939)       |
| FS (mm)            | 1 - 4 (406)        | 1 - 6 (457)       | 1 - 8 (508)       | 2 - 0 (609)       | 2 - 2 (660)       | 2 - 4 (711)        | 2 - 6 (762)       | 2 - 8 (812)       | 3 - 0 (914)       |
| DLO (mm)           | 0 - 11 19/64 (287) | 1 - 1 19/64 (338) | 1 - 3 19/64 (388) | 1 - 7 19/64 (490) | 1 - 9 19/64 (541) | 1 - 11 19/64 (592) | 2 - 1 19/64 (642) | 2 - 3 19/64 (693) | 2 - 7 19/64 (795) |
| 1 - 3 7/8 (403)    |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 1 - 2 9/16 (370)   | UAWAWNPO 1614      | UAWAWNPO 1814     | UAWAWNPO 2014     | UAWAWNPO 2414     | UAWAWNPO 2614     | UAWAWNPO 2814      | UAWAWNPO 3014     | UAWAWNPO 3214     | UAWAWNPO 3614     |
| 1 - 2 1/16 (357)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 0 - 7 15/16 (186)  |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 1 - 5 7/8 (454)    |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 1 - 4 9/16 (421)   | UAWAWNPO 1616      | UAWAWNPO 1816     | UAWAWNPO 2016     | UAWAWNPO 2416     | UAWAWNPO 2616     | UAWAWNPO 2816      | UAWAWNPO 3016     | UAWAWNPO 3216     | UAWAWNPO 3616     |
| 1 - 4 1/16 (408)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 0 - 9 15/16 (237)  |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 1 - 7 7/8 (505)    |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 1 - 6 9/16 (471)   | UAWAWNPO 1618      | UAWAWNPO 1818     | UAWAWNPO 2018     | UAWAWNPO 2418     | UAWAWNPO 2618     | UAWAWNPO 2818      | UAWAWNPO 3018     | UAWAWNPO 3218     | UAWAWNPO 3618     |
| 1 - 6 1/16 (459)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 0 - 11 15/16 (287) |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 1 - 9 7/8 (556)    |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 1 - 8 9/16 (522)   | UAWAWNPO 1620      | UAWAWNPO 1820     | UAWAWNPO 2020     | UAWAWNPO 2420     | UAWAWNPO 2620     | UAWAWNPO 2820      | UAWAWNPO 3020     | UAWAWNPO 3220     | UAWAWNPO 3620     |
| 1 - 8 1/16 (510)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 1 - 1 15/16 (338)  |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 2 - 1 7/8 (657)    |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 2 - 9/16 (624)     | UAWAWNPO 1624      | UAWAWNPO 1824     | UAWAWNPO 2024     | UAWAWNPO 2424     | UAWAWNPO 2624     | UAWAWNPO 2824      | UAWAWNPO 3024     | UAWAWNPO 3224     | UAWAWNPO 3624     |
| 2 - 1/16 (611)     |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 1 - 5 15/16 (440)  |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 2 - 5 7/8 (759)    |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 2 - 4 9/16 (725)   | UAWAWNPO 1628      | UAWAWNPO 1828     | UAWAWNPO 2028     | UAWAWNPO 2428     | UAWAWNPO 2628     | UAWAWNPO 2828      | UAWAWNPO 3028     | UAWAWNPO 3228     | UAWAWNPO 3628     |
| 2 - 4 1/16 (713)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 1 - 9 15/16 (541)  |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 2 - 9 7/8 (860)    |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 2 - 8 9/16 (827)   | UAWAWNPO 1632      | UAWAWNPO 1832     | UAWAWNPO 2032     | UAWAWNPO 2432     | UAWAWNPO 2632     | UAWAWNPO 2832      | UAWAWNPO 3032     | UAWAWNPO 3232     | UAWAWNPO 3632     |
| 2 - 8 1/16 (814)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 2 - 1 15/16 (643)  |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 3 - 1 7/8 (962)    |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 3 - 9/16 (929)     | UAWAWNPO 1636      | UAWAWNPO 1836     | UAWAWNPO 2036     | UAWAWNPO 2436     | UAWAWNPO 2636     | UAWAWNPO 2836      | UAWAWNPO 3036     | UAWAWNPO 3236     | UAWAWNPO 3636     |
| 3 - 1/16 (916)     |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 2 - 5 15/16 (745)  |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 3 - 5 7/8 (1064)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 3 - 4 9/16 (1030)  | UAWAWNPO 1640      | UAWAWNPO 1840     | UAWAWNPO 2040     | UAWAWNPO 2440     | UAWAWNPO 2640     | UAWAWNPO 2840      | UAWAWNPO 3040     | UAWAWNPO 3240     | UAWAWNPO 3640     |
| 3 - 4 1/16 (1018)  |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 2 - 9 15/16 (846)  |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 3 - 9 7/8 (1165)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 3 - 8 9/16 (1132)  | UAWAWNPO 1644      | UAWAWNPO 1844     | UAWAWNPO 2044     | UAWAWNPO 2444     | UAWAWNPO 2644     | UAWAWNPO 2844      | UAWAWNPO 3044     | UAWAWNPO 3244     | UAWAWNPO 3644     |
| 3 - 8 1/16 (1119)  |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 3 - 1 15/16 (948)  |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 4 - 1 7/8 (1267)   |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 4 - 9/16 (1233)    | UAWAWNPO 1648      | UAWAWNPO 1848     | UAWAWNPO 2048     | UAWAWNPO 2448     | UAWAWNPO 2648     | UAWAWNPO 2848      | UAWAWNPO 3048     | UAWAWNPO 3248     | UAWAWNPO 3648     |
| 4 - 1/16 (1221)    |                    |                   |                   |                   |                   |                    |                   |                   |                   |
| 3 - 5 15/16 (1049) |                    |                   |                   |                   |                   |                    |                   |                   |                   |

WOOD AWNING / WOOD AWNING PUSH OUT
















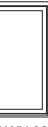





























| MO (mm)            | 3 - 7 5/8 (1108)   | 4 - 3 5/8 (1311)   | 4 - 11 5/8 (1514)  | 5 - 3 5/8 (1616)   | 5 - 7 5/8 (1718)    | 6 - 3 5/8 (1921)   |
|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|--------------------|
| RO (mm)            | 3 - 5 (1041)       | 4 - 1 (1245)       | 4 - 9 (1448)       | 5 - 1 (1549)       | 5 - 5 (1651)        | 6 - 1 (1854)       |
| FS (mm)            | 3 - 4 (1016)       | 4 - 0 (1219)       | 4 - 8 (1422)       | 5 - 0 (1524)       | 5 - 4 (1626)        | 6 - 0 (1829)       |
| DLO (mm)           | 2 - 11 19/64 (896) | 3 - 7 19/64 (1100) | 4 - 3 19/64 (1303) | 4 - 7 19/64 (1404) | 4 - 11 19/64 (1506) | 5 - 7 19/64 (1709) |
| 1 - 3 7/8 (403)    |                    |                    |                    |                    |                     |                    |
| 1 - 2 9/16 (370)   | UAWAWNPO 4014      | UAWAWNPO 4814      | UAWAWNPO 5614      | UAWAWNPO 6014      | UAWAWNPO 6414       | UAWAWNPO 7214      |
| 1 - 2 1/16 (357)   |                    |                    |                    |                    |                     |                    |
| 0 - 7 15/16 (186)  |                    |                    |                    |                    |                     |                    |
| 1 - 5 7/8 (454)    |                    |                    |                    |                    |                     |                    |
| 1 - 4 9/16 (421)   | UAWAWNPO 4016      | UAWAWNPO 4816      | UAWAWNPO 5616      | UAWAWNPO 6016      | UAWAWNPO 6416       | UAWAWNPO 7216      |
| 1 - 4 1/16 (408)   |                    |                    |                    |                    |                     |                    |
| 0 - 9 15/16 (237)  |                    |                    |                    |                    |                     |                    |
| 1 - 7 7/8 (505)    |                    |                    |                    |                    |                     |                    |
| 1 - 6 9/16 (471)   | UAWAWNPO 4018      | UAWAWNPO 4818      | UAWAWNPO 5618      | UAWAWNPO 6018      | UAWAWNPO 6418       | UAWAWNPO 7218      |
| 1 - 6 1/16 (459)   |                    |                    |                    |                    |                     |                    |
| 0 - 11 15/16 (287) |                    |                    |                    |                    |                     |                    |
| 1 - 9 7/8 (556)    |                    |                    |                    |                    |                     |                    |
| 1 - 8 9/16 (522)   | UAWAWNPO 4020      | UAWAWNPO 4820      | UAWAWNPO 5620      | UAWAWNPO 6020      | UAWAWNPO 6420       | UAWAWNPO 7220      |
| 1 - 8 1/16 (510)   |                    |                    |                    |                    |                     |                    |
| 1 - 1 15/16 (338)  |                    |                    |                    |                    |                     |                    |
| 2 - 1 7/8 (657)    |                    |                    |                    |                    |                     |                    |
| 2 - 9/16 (624)     | UAWAWNPO 4024      | UAWAWNPO 4824      | UAWAWNPO 5624      | UAWAWNPO 6024      | UAWAWNPO 6424       | UAWAWNPO 7224      |
| 2 - 1/16 (611)     |                    |                    |                    |                    |                     |                    |
| 1 - 5 15/16 (440)  |                    |                    |                    |                    |                     |                    |
| 2 - 5 7/8 (759)    |                    |                    |                    |                    |                     |                    |
| 2 - 4 9/16 (725)   | UAWAWNPO 4028      | UAWAWNPO 4828      | UAWAWNPO 5628      | UAWAWNPO 6028      | UAWAWNPO 6428       | UAWAWNPO 7228      |
| 2 - 4 1/16 (713)   |                    |                    |                    |                    |                     |                    |
| 1 - 9 15/16 (541)  |                    |                    |                    |                    |                     |                    |
| 2 - 9 7/8 (860)    |                    |                    |                    |                    |                     |                    |
| 2 - 8 9/16 (827)   | UAWAWNPO 4032      | UAWAWNPO 4832      | UAWAWNPO 5632      | UAWAWNPO 6032      | UAWAWNPO 6432       | UAWAWNPO 7232      |
| 2 - 8 1/16 (814)   |                    |                    |                    |                    |                     |                    |
| 2 - 1 15/16 (643)  |                    |                    |                    |                    |                     |                    |
| 3 - 1 7/8 (962)    |                    |                    |                    |                    |                     |                    |
| 3 - 9/16 (929)     | UAWAWNPO 4036      | UAWAWNPO 4836      | UAWAWNPO 5636      | UAWAWNPO 6036      | UAWAWNPO 6436       | UAWAWNPO 7236      |
| 3 - 1/16 (916)     |                    |                    |                    |                    |                     |                    |
| 2 - 5 15/16 (745)  |                    |                    |                    |                    |                     |                    |
| 3 - 5 7/8 (1064)   |                    |                    |                    |                    |                     |                    |
| 3 - 4 9/16 (1030)  | UAWAWNPO 4040      | UAWAWNPO 4840      | UAWAWNPO 5640      | UAWAWNPO 6040      | UAWAWNPO 6440       | UAWAWNPO 7240      |
| 3 - 4 1/16 (1018)  |                    |                    |                    |                    |                     |                    |
| 2 - 9 15/16 (846)  |                    |                    |                    |                    |                     |                    |
| 3 - 9 7/8 (1165)   |                    |                    |                    |                    |                     |                    |
| 3 - 8 9/16 (1132)  | UAWAWNPO 4044      | UAWAWNPO 4844      | UAWAWNPO 5644      | UAWAWNPO 6044      | UAWAWNPO 6444       | UAWAWNPO 7244      |
| 3 - 8 1/16 (1119)  |                    |                    |                    |                    |                     |                    |
| 3 - 1 15/16 (948)  |                    |                    |                    |                    |                     |                    |
| 4 - 1 7/8 (1267)   |                    |                    |                    |                    |                     |                    |
| 4 - 9/16 (1233)    | UAWAWNPO 4048      | UAWAWNPO 4848      | UAWAWNPO 5648      | UAWAWNPO 6048      | UAWAWNPO 6448       | UAWAWNPO 7248      |
| 4 - 1/16 (1221)    |                    |                    |                    |                    |                     |                    |
| 3 - 5 15/16 (1049) |                    |                    |                    |                    |                     |                    |

Ultimate Wood Awning: UAWAWN  
 Ultimate Wood Awning Push Out: UAWAWNPO

Details and Elevations not to scale.  
 • Ultimate Wood Awning Push Out not available in frame size heights greater than 48 1/16".  
 • For units with a tall bottom rail, reduce the DLO height by 1 1/2".

Please consult your local Marvin representative for more information.  
 For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

**WOOD AWNING / WOOD AWNING PUSH OUT**

| MO (mm)   | 1 - 7 5/8 (498)   | 1 - 9 5/8 (549)   | 1 - 11 5/8 (600)  | 2 - 3 5/8 (702)   | 2 - 5 5/8 (752)   | 2 - 7 5/8 (803)   | 2 - 9 5/8 (854)   | 2 - 11 5/8 (905)  | 3 - 3 5/8 (1006)  |
|---|---|---|---|---|---|---|---|---|---|
| RO (mm)   | 1 - 5 (431)   | 1 - 7 (482)   | 1 - 9 (533)   | 2 - 1 (635)   | 2 - 3 (685)   | 2 - 5 (736)   | 2 - 7 (787)   | 2 - 9 (838)   | 3 - 1 (939)   |
| FS (mm)   | 1 - 4 (406)   | 1 - 6 (457)   | 1 - 8 (508)   | 2 - 0 (609)   | 2 - 2 (660)   | 2 - 4 (711)   | 2 - 6 (762)   | 2 - 8 (812)   | 3 - 0 (914)   |
| DLO (mm)  | 0 - 11 19/64 (287)  | 1 - 1 19/64 (338)   | 1 - 3 19/64 (388)   | 1 - 7 19/64 (490)   | 1 - 9 19/64 (541)   | 1 - 11 19/64 (592)  | 2 - 1 19/64 (642)   | 2 - 3 19/64 (693)   | 2 - 7 19/64 (795)   |
| 4 - 7 7/8 (1419)<br>4 - 6 9/16 (1386)<br>4 - 6 1/16 (1373)<br>3 - 11 15/16 (1202) |    |    |    |    |    |    |    |    |    |
| 4 - 9 7/8 (1470)<br>4 - 8 9/16 (1437)<br>4 - 8 1/16 (1424)<br>4 - 1 15/16 (1253)  |    |    |    |    |    |    |    |    |    |
| 5 - 1 7/8 (1572)<br>5 - 9/16 (1538)<br>5 - 1/16 (1526)<br>4 - 5 15/16 (1354)      |    |    |    |    |    |    |    |    |    |
| 5 - 5 7/8 (1673)<br>5 - 4 9/16 (1640)<br>5 - 4 1/16 (1627)<br>4 - 9 15/16 (1456)  |   |   |   |   |   |   |   |   |   |
| 6 - 1 7/8 (1876)<br>6 - 9/16 (1843)<br>6 - 1/16 (1830)<br>5 - 5 15/16 (1659)      |  |  |  |  |  |  |  |  |  |

**WOOD AWNING / WOOD AWNING PUSH OUT**

| MO (mm)   | 3 - 7 5/8 (1108)  | 4 - 3 5/8 (1311)  | 4 - 11 5/8 (1514)   | 5 - 3 5/8 (1616)  | 5 - 7 5/8 (1718)  | 6 - 3 5/8 (1921)  |
|---|---|---|---|---|---|---|
| RO (mm)   | 3 - 5 (1041)  | 4 - 1 (1245)  | 4 - 9 (1448)  | 5 - 1 (1549)  | 5 - 5 (1651)  | 6 - 1 (1854)  |
| FS (mm)   | 3 - 4 (1016)  | 4 - 0 (1219)  | 4 - 8 (1422)  | 5 - 0 (1524)  | 5 - 4 (1626)  | 6 - 0 (1829)  |
| DLO (mm)  | 2 - 11 19/64 (896)  | 3 - 7 19/64 (1100)  | 4 - 3 19/64 (1303)  | 4 - 7 19/64 (1404)  | 4 - 11 19/64 (1506)   | 5 - 7 19/64 (1709)  |
| 4 - 7 7/8 (1419)<br>4 - 6 9/16 (1386)<br>4 - 6 1/16 (1373)<br>3 - 11 15/16 (1202) |    |    |    |    |    |    |
| 4 - 9 7/8 (1470)<br>4 - 8 9/16 (1437)<br>4 - 8 1/16 (1424)<br>4 - 1 15/16 (1253)  |    |    |    |    |    |    |
| 5 - 1 7/8 (1572)<br>5 - 9/16 (1538)<br>5 - 1/16 (1526)<br>4 - 5 15/16 (1354)      |    |    |    |    |    |    |
| 5 - 5 7/8 (1673)<br>5 - 4 9/16 (1640)<br>5 - 4 1/16 (1627)<br>4 - 9 15/16 (1456)  |   |   |   |   |   |   |
| 6 - 1 7/8 (1876)<br>6 - 9/16 (1843)<br>6 - 1/16 (1830)<br>5 - 5 15/16 (1659)      |  |  |  |  |  |  |

Details and Elevations not to scale.

- Ultimate Wood Awning Push Out not available in frame size heights greater than 48 1/16".
- For units with a tall bottom rail, reduce the DLO height by 1 1/2".

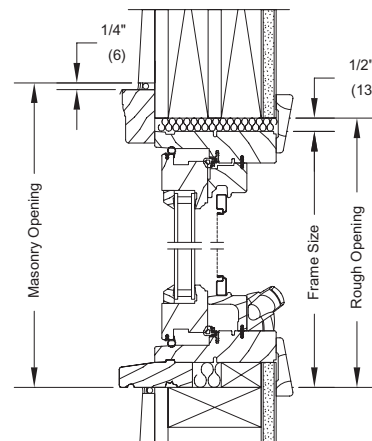
T For safety and/or code requirements, Marvin recommends tempered glass in all units with a frame size height of 72 1/16" or larger and units with a frame size of 25.2 ft² and larger.

Please consult your local Marvin representative for more information.

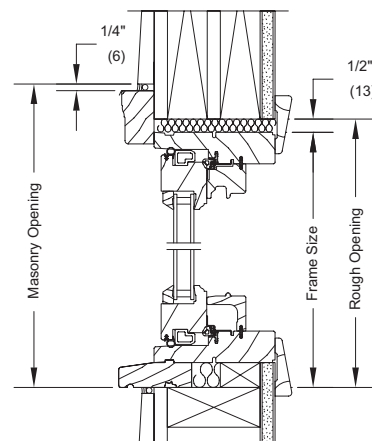
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

**WOOD AWNING**

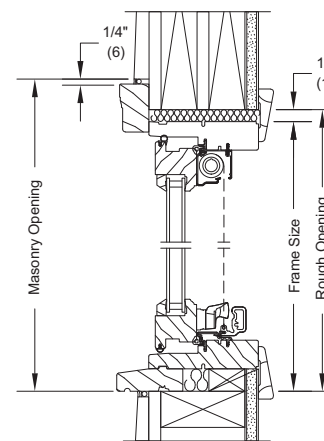
CONSTRUCTION DETAILS



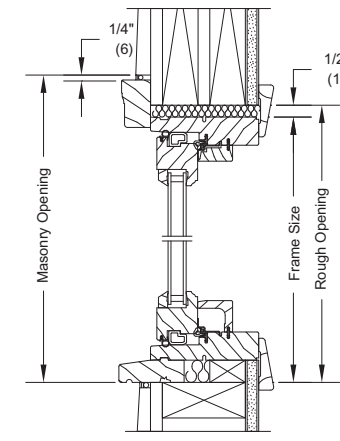
HEAD JAMB AND SILL - OPERATOR



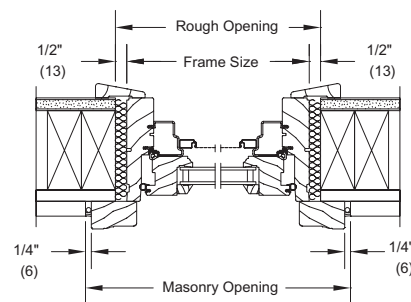
HEAD JAMB AND SILL - STATIONARY



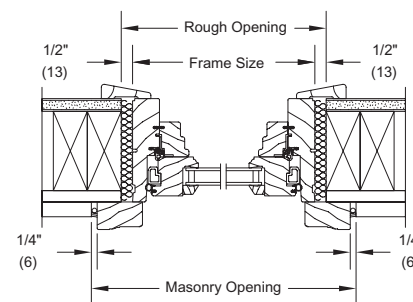
PUSH OUT HEAD JAMB AND SILL - OPERATOR WITH RETRACTABLE SCREEN



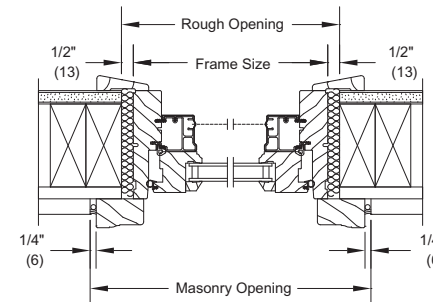
PUSH OUT HEAD JAMB AND SILL - STATIONARY



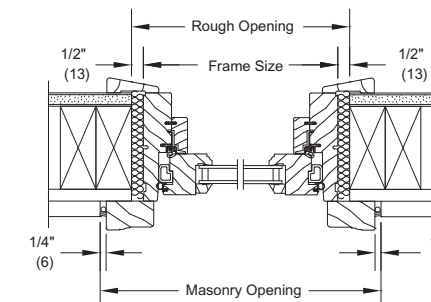
JAMB - OPERATOR



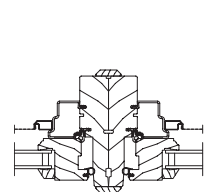
JAMB - STATIONARY



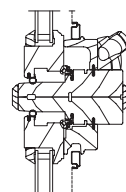
PUSH OUT JAMB - OPERATOR WITH RETRACTABLE SCREEN



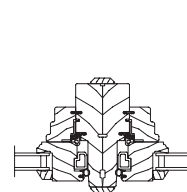
PUSH OUT JAMB - STATIONARY



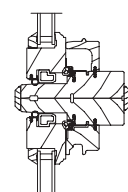
VERTICAL MULLION OPERATOR



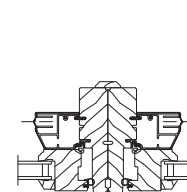
HORIZONTAL MULLION OPERATOR



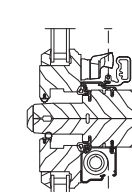
VERTICAL MULLION STATIONARY



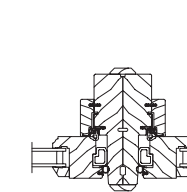
HORIZONTAL MULLION STATIONARY



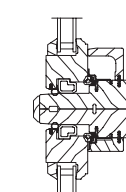
PUSH OUT OPERATOR VERTICAL MULLION



PUSH OUT OPERATOR HORIZONTAL MULLION WITH RETRACTABLE SCREEN



PUSH OUT STATIONARY VERTICAL MULLION



PUSH OUT STATIONARY HORIZONTAL MULLION

**WOOD AWNING PUSH OUT**

CONSTRUCTION DETAILS

**AWNING / AWNING PUSH OUT**

|                 |                    |                   |                   |                   |                   |                    |                   |                   |
|-----------------|--------------------|-------------------|-------------------|-------------------|-------------------|--------------------|-------------------|-------------------|
| <b>MO (mm)</b>  | 1 - 4 1/2 (419)    | 1 - 6 1/2 (469)   | 1 - 8 1/2 (520)   | 2 - 1/2 (622)     | 2 - 2 1/2 (673)   | 2 - 4 1/2 (723)    | 2 - 6 1/2 (774)   | 2 - 8 1/2 (825)   |
| <b>RO (mm)</b>  | 1 - 5 (431)        | 1 - 7 (482)       | 1 - 9 (533)       | 2 - 1 (635)       | 2 - 3 (688)       | 2 - 5 (736)        | 2 - 7 (787)       | 2 - 9 (838)       |
| <b>FS (mm)</b>  | 1 - 4 (406)        | 1 - 6 (457)       | 1 - 8 (508)       | 2 - 0 (609)       | 2 - 2 (660)       | 2 - 4 (711)        | 2 - 6 (762)       | 2 - 8 (812)       |
| <b>DLO (mm)</b> | 0 - 10 13/64 (259) | 1 - 0 13/64 (310) | 1 - 2 13/64 (361) | 1 - 6 13/64 (462) | 1 - 8 13/64 (513) | 1 - 10 13/64 (564) | 2 - 0 13/64 (615) | 2 - 2 13/64 (666) |

|                 |  |  |  |  |  |  |  |  |
|-----------------|--|--|--|--|--|--|--|--|
| 1 - 1 3/8 (339) |  |  |  |  |  |  |  |  |
| 1 - 1 5/8 (346) |  |  |  |  |  |  |  |  |
| 1 - 1 7/8 (353) |  |  |  |  |  |  |  |  |
| 1 - 1 1/8 (333) |  |  |  |  |  |  |  |  |
| 1 - 1 3/8 (396) |  |  |  |  |  |  |  |  |
| 1 - 1 5/8 (447) |  |  |  |  |  |  |  |  |
| 1 - 1 7/8 (485) |  |  |  |  |  |  |  |  |
| 1 - 1 1/8 (333) |  |  |  |  |  |  |  |  |
| 1 - 1 3/8 (396) |  |  |  |  |  |  |  |  |
| 1 - 1 5/8 (447) |  |  |  |  |  |  |  |  |
| 1 - 1 7/8 (485) |  |  |  |  |  |  |  |  |

**AWNING / AWNING PUSH OUT**

|                 |                   |                    |                    |                    |                    |                     |                    |
|-----------------|-------------------|--------------------|--------------------|--------------------|--------------------|---------------------|--------------------|
| <b>MO (mm)</b>  | 3 - 1/2 (927)     | 3 - 4 1/2 (1028)   | 4 - 1/2 (1232)     | 4 - 8 1/2 (1435)   | 5 - 1/2 (1537)     | 5 - 4 1/2 (1638)    | 6 - 1/2 (1842)     |
| <b>RO (mm)</b>  | 3 - 1 (939)       | 3 - 5 (1041)       | 4 - 1 (1245)       | 4 - 9 (1448)       | 5 - 1 (1549)       | 5 - 5 (1651)        | 6 - 1 (1854)       |
| <b>FS (mm)</b>  | 3 - 0 (914)       | 3 - 4 (1016)       | 4 - 0 (1219)       | 4 - 8 (1422)       | 5 - 0 (1524)       | 5 - 4 (1626)        | 6 - 0 (1829)       |
| <b>DLO (mm)</b> | 2 - 6 13/64 (767) | 2 - 10 13/64 (869) | 3 - 6 13/64 (1072) | 4 - 2 13/64 (1275) | 4 - 6 13/64 (1377) | 4 - 10 13/64 (1478) | 5 - 6 13/64 (1682) |

|                 |  |  |  |  |  |  |  |
|-----------------|--|--|--|--|--|--|--|
| 1 - 1 3/8 (339) |  |  |  |  |  |  |  |
| 1 - 1 5/8 (346) |  |  |  |  |  |  |  |
| 1 - 1 7/8 (353) |  |  |  |  |  |  |  |
| 1 - 1 1/8 (333) |  |  |  |  |  |  |  |
| 1 - 1 3/8 (396) |  |  |  |  |  |  |  |
| 1 - 1 5/8 (447) |  |  |  |  |  |  |  |
| 1 - 1 7/8 (485) |  |  |  |  |  |  |  |
| 1 - 1 1/8 (333) |  |  |  |  |  |  |  |
| 1 - 1 3/8 (396) |  |  |  |  |  |  |  |
| 1 - 1 5/8 (447) |  |  |  |  |  |  |  |
| 1 - 1 7/8 (485) |  |  |  |  |  |  |  |

Ultimate Awning: UAWN  
 Ultimate Awning Push Out: UAWNPO

Details and Elevations not to scale.  
 • Ultimate Awning Push Out not available in frame size heights greater than 47 1/8".

Please consult your local Marvin representative for more information.  
 For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

### AWNING / AWNING PUSH OUT

|                 |                    |                   |                   |                   |                   |                    |                   |                   |
|-----------------|--------------------|-------------------|-------------------|-------------------|-------------------|--------------------|-------------------|-------------------|
| <b>MO (mm)</b>  | 1 - 4 1/2 (419)    | 1 - 6 1/2 (469)   | 1 - 8 1/2 (520)   | 2 - 1/2 (622)     | 2 - 2 1/2 (673)   | 2 - 4 1/2 (723)    | 2 - 6 1/2 (774)   | 2 - 8 1/2 (825)   |
| <b>RO (mm)</b>  | 1 - 5 (431)        | 1 - 7 (482)       | 1 - 9 (533)       | 2 - 1 (635)       | 2 - 3 (688)       | 2 - 5 (736)        | 2 - 7 (787)       | 2 - 9 (838)       |
| <b>FS (mm)</b>  | 1 - 4 (406)        | 1 - 6 (457)       | 1 - 8 (508)       | 2 - 0 (609)       | 2 - 2 (660)       | 2 - 4 (711)        | 2 - 6 (762)       | 2 - 8 (812)       |
| <b>DLO (mm)</b> | 0 - 10 13/64 (259) | 1 - 0 13/64 (310) | 1 - 2 13/64 (361) | 1 - 6 13/64 (462) | 1 - 8 13/64 (513) | 1 - 10 13/64 (564) | 2 - 0 13/64 (615) | 2 - 2 13/64 (666) |

|   |  |  |  |  |  |  |  |  |
|---|--|--|--|--|--|--|--|--|
| 4 - 5 3/8 (1355)<br>4 - 5 5/8 (1362)<br>4 - 5 1/8 (1349)<br>3 - 11 21/64 (1202)   |  |  |  |  |  |  |  |  |
| 4 - 7 3/8 (1406)<br>4 - 7 5/8 (1412)<br>4 - 7 1/8 (1400)<br>4 - 1 21/64 (1253)    |  |  |  |  |  |  |  |  |
| 4 - 11 3/8 (1508)<br>4 - 11 5/8 (1514)<br>4 - 11 1/8 (1501)<br>4 - 5 21/64 (1355) |  |  |  |  |  |  |  |  |
| 5 - 3 3/8 (1609)<br>5 - 3 5/8 (1616)<br>5 - 3 1/8 (1603)<br>4 - 9 21/64 (1456)    |  |  |  |  |  |  |  |  |
| 5 - 11 3/8 (1812)<br>5 - 11 5/8 (1819)<br>5 - 11 1/8 (1806)<br>5 - 5 21/64 (1659) |  |  |  |  |  |  |  |  |

### AWNING / AWNING PUSH OUT

|                 |                   |                    |                    |                    |                    |                     |                    |
|-----------------|-------------------|--------------------|--------------------|--------------------|--------------------|---------------------|--------------------|
| <b>MO (mm)</b>  | 3 - 1/2 (927)     | 3 - 4 1/2 (1028)   | 4 - 1/2 (1232)     | 4 - 8 1/2 (1435)   | 5 - 1/2 (1537)     | 5 - 4 1/2 (1638)    | 6 - 1/2 (1842)     |
| <b>RO (mm)</b>  | 3 - 1 (939)       | 3 - 5 (1041)       | 4 - 1 (1245)       | 4 - 9 (1448)       | 5 - 1 (1549)       | 5 - 5 (1651)        | 6 - 1 (1854)       |
| <b>FS (mm)</b>  | 3 - 0 (914)       | 3 - 4 (1016)       | 4 - 0 (1219)       | 4 - 8 (1422)       | 5 - 0 (1524)       | 5 - 4 (1626)        | 6 - 0 (1829)       |
| <b>DLO (mm)</b> | 2 - 6 13/64 (767) | 2 - 10 13/64 (869) | 3 - 6 13/64 (1072) | 4 - 2 13/64 (1275) | 4 - 6 13/64 (1377) | 4 - 10 13/64 (1478) | 5 - 6 13/64 (1682) |

|   |  |  |  |  |  |  |  |
|---|--|--|--|--|--|--|--|
| 4 - 5 3/8 (1355)<br>4 - 5 5/8 (1362)<br>4 - 5 1/8 (1349)<br>3 - 11 21/64 (1202)   |  |  |  |  |  |  |  |
| 4 - 7 3/8 (1406)<br>4 - 7 5/8 (1412)<br>4 - 7 1/8 (1400)<br>4 - 1 21/64 (1253)    |  |  |  |  |  |  |  |
| 4 - 11 3/8 (1508)<br>4 - 11 5/8 (1514)<br>4 - 11 1/8 (1501)<br>4 - 5 21/64 (1355) |  |  |  |  |  |  |  |
| 5 - 3 3/8 (1609)<br>5 - 3 5/8 (1616)<br>5 - 3 1/8 (1603)<br>4 - 9 21/64 (1456)    |  |  |  |  |  |  |  |
| 5 - 11 3/8 (1812)<br>5 - 11 5/8 (1819)<br>5 - 11 1/8 (1806)<br>5 - 5 21/64 (1659) |  |  |  |  |  |  |  |

Details and Elevations not to scale.

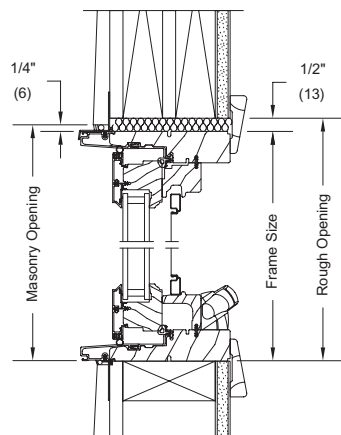
T For safety and/or code requirements, Marvin recommends tempered glass in all units with a frame size height of 71 1/8" or larger and units with a frame size of 25.2 ft² and larger.

Please consult your local Marvin representative for more information.

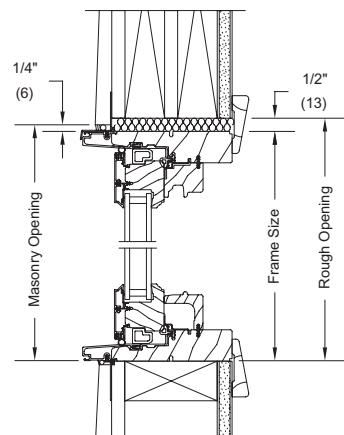
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

**AWNING**

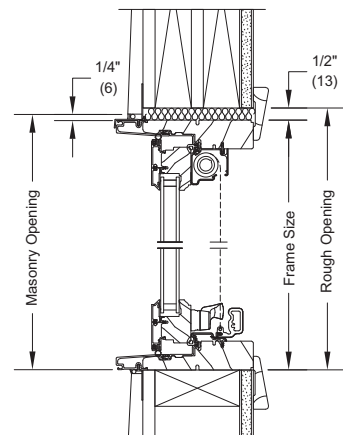
CONSTRUCTION DETAILS



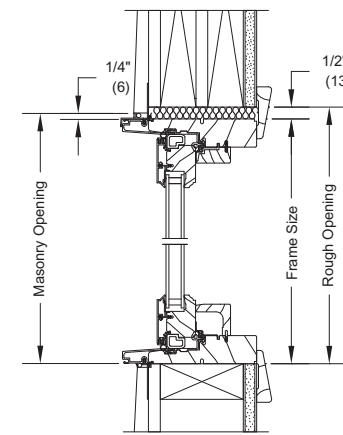
HEAD JAMB AND SILL - OPERATOR



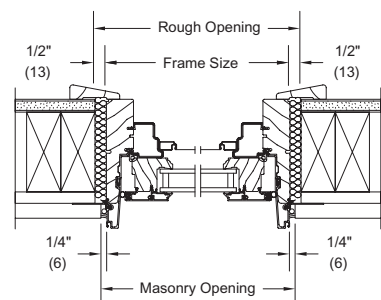
HEAD JAMB AND SILL - STATIONARY



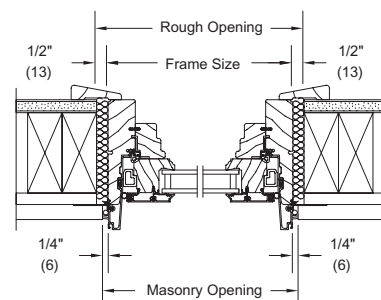
PUSH OUT  
HEAD JAMB AND SILL - OPERATOR  
WITH RETRACTABLE SCREEN



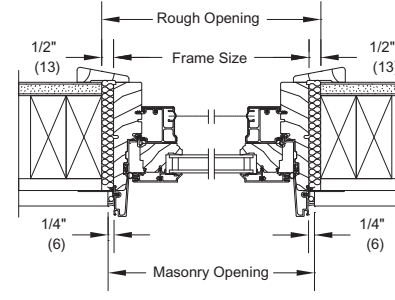
PUSH OUT  
HEAD JAMB AND SILL - STATIONARY



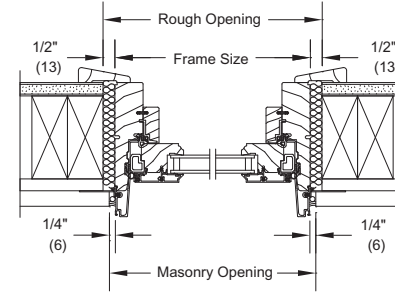
JAMB - OPERATOR



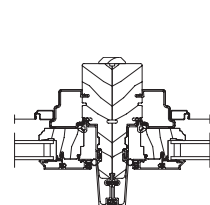
JAMB - STATIONARY



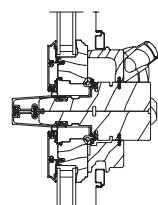
PUSH OUT  
JAMB - OPERATOR  
WITH RETRACTABLE SCREEN



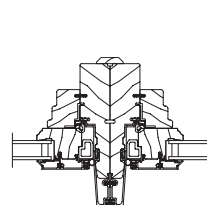
PUSH OUT  
JAMB - STATIONARY



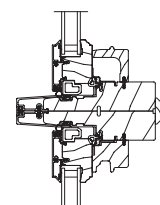
VERTICAL MULLION  
OPERATOR



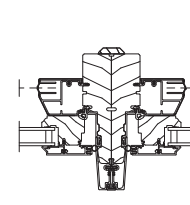
HORIZONTAL MULLION  
OPERATOR



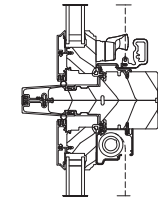
VERTICAL MULLION  
STATIONARY



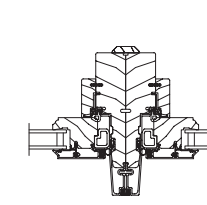
HORIZONTAL MULLION  
STATIONARY



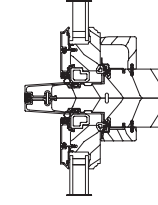
PUSH OUT OPERATOR  
VERTICAL MULLION



PUSH OUT OPERATOR  
HORIZONTAL MULLION  
WITH RETRACTABLE SCREEN



PUSH OUT STATIONARY  
VERTICAL MULLION



PUSH OUT STATIONARY  
HORIZONTAL MULLION

**AWNING PUSH OUT**

CONSTRUCTION DETAILS

WOOD CASEMENT PICTURE / WOOD CASEMENT PUSH OUT PICTURE

| MO (mm)         | 3 - 7 5/8 (1108)  | 4 - 3 5/8 (1311)  | 4 - 11 5/8 (1514) | 5 - 3 5/8 (1616)  | 5 - 7 5/8 (1718)   | 6 - 3 5/8 (1921)  | 6 - 11 5/8 (2124) | 7 - 7 5/8 (2327)   | 8 - 3 5/8 (2531)  |
|-----------------|-------------------|-------------------|-------------------|-------------------|--------------------|-------------------|-------------------|--------------------|-------------------|
| RO (mm)         | 3 - 5 (1041)      | 4 - 1 (1245)      | 4 - 9 (1448)      | 5 - 1 (1549)      | 5 - 5 (1651)       | 6 - 1 (1854)      | 6 - 9 (2057)      | 7 - 5 (2261)       | 8 - 1 (2464)      |
| FS (mm)         | 3 - 4 (1016)      | 4 - 0 (1219)      | 4 - 8 (1422)      | 5 - 0 (1524)      | 5 - 4 (1626)       | 6 - 0 (1829)      | 6 - 8 (2032)      | 7 - 4 (2235)       | 8 - 0 (2438)      |
| DLO (mm)        | 2 - 10 3/16 (868) | 3 - 6 3/16 (1072) | 4 - 2 3/16 (1275) | 4 - 6 3/16 (1376) | 4 - 10 3/16 (1478) | 5 - 6 3/16 (1681) | 6 - 2 3/16 (1884) | 6 - 10 3/16 (2088) | 7 - 6 3/16 (2291) |
| 1 - 1 7/8 (352) |                   |                   |                   |                   |                    |                   |                   |                    |                   |
| 1 - 1 7/8 (352) | UWCAP 4012        | UWCAP 4812        | UWCAP 5612        | UWCAP 6012        | UWCAP 6412         | UWCAP 7212        | UWCAP 8012        | UWCAP 8812         | UWCAP 9612        |
| 1 - 1 7/8 (352) | UWCAPOP 4012      | UWCAPOP 4812      | UWCAPOP 5612      | UWCAPOP 6012      | UWCAPOP 6412       | UWCAPOP 7212      | UWCAPOP 8012      | UWCAPOP 8812       | UWCAPOP 9612      |
| 1 - 3 7/8 (403) |                   |                   |                   |                   |                    |                   |                   |                    |                   |
| 1 - 3 7/8 (403) | UWCAP 4014        | UWCAP 4814        | UWCAP 5614        | UWCAP 6014        | UWCAP 6414         | UWCAP 7214        | UWCAP 8014        | UWCAP 8814         | UWCAP 9614        |
| 1 - 3 7/8 (403) | UWCAPOP 4014      | UWCAPOP 4814      | UWCAPOP 5614      | UWCAPOP 6014      | UWCAPOP 6414       | UWCAPOP 7214      | UWCAPOP 8014      | UWCAPOP 8814       | UWCAPOP 9614      |
| 1 - 5 7/8 (454) |                   |                   |                   |                   |                    |                   |                   |                    |                   |
| 1 - 5 7/8 (454) | UWCAP 4016        | UWCAP 4816        | UWCAP 5616        | UWCAP 6016        | UWCAP 6416         | UWCAP 7216        | UWCAP 8016        | UWCAP 8816         | UWCAP 9616        |
| 1 - 5 7/8 (454) | UWCAPOP 4016      | UWCAPOP 4816      | UWCAPOP 5616      | UWCAPOP 6016      | UWCAPOP 6416       | UWCAPOP 7216      | UWCAPOP 8016      | UWCAPOP 8816       | UWCAPOP 9616      |
| 1 - 7 7/8 (505) |                   |                   |                   |                   |                    |                   |                   |                    |                   |
| 1 - 7 7/8 (505) | UWCAP 4018        | UWCAP 4818        | UWCAP 5618        | UWCAP 6018        | UWCAP 6418         | UWCAP 7218        | UWCAP 8018        | UWCAP 8818         | UWCAP 9618        |
| 1 - 7 7/8 (505) | UWCAPOP 4018      | UWCAPOP 4818      | UWCAPOP 5618      | UWCAPOP 6018      | UWCAPOP 6418       | UWCAPOP 7218      | UWCAPOP 8018      | UWCAPOP 8818       | UWCAPOP 9618      |
| 1 - 9 7/8 (556) |                   |                   |                   |                   |                    |                   |                   |                    |                   |
| 1 - 9 7/8 (556) | UWCAP 4020        | UWCAP 4820        | UWCAP 5620        | UWCAP 6020        | UWCAP 6420         | UWCAP 7220        | UWCAP 8020        | UWCAP 8820         | UWCAP 9620        |
| 1 - 9 7/8 (556) | UWCAPOP 4020      | UWCAPOP 4820      | UWCAPOP 5620      | UWCAPOP 6020      | UWCAPOP 6420       | UWCAPOP 7220      | UWCAPOP 8020      | UWCAPOP 8820       | UWCAPOP 9620      |
| 2 - 1 7/8 (657) |                   |                   |                   |                   |                    |                   |                   |                    |                   |
| 2 - 1 7/8 (657) | UWCAP 4024        | UWCAP 4824        | UWCAP 5624        | UWCAP 6024        | UWCAP 6424         | UWCAP 7224        | UWCAP 8024        | UWCAP 8824         | UWCAP 9624        |
| 2 - 1 7/8 (657) | UWCAPOP 4024      | UWCAPOP 4824      | UWCAPOP 5624      | UWCAPOP 6024      | UWCAPOP 6424       | UWCAPOP 7224      | UWCAPOP 8024      | UWCAPOP 8824       | UWCAPOP 9624      |
| 2 - 5 7/8 (759) |                   |                   |                   |                   |                    |                   |                   |                    |                   |
| 2 - 5 7/8 (759) | UWCAP 4028        | UWCAP 4828        | UWCAP 5628        | UWCAP 6028        | UWCAP 6428         | UWCAP 7228        | UWCAP 8028        | UWCAP 8828         | UWCAP 9628        |
| 2 - 5 7/8 (759) | UWCAPOP 4028      | UWCAPOP 4828      | UWCAPOP 5628      | UWCAPOP 6028      | UWCAPOP 6428       | UWCAPOP 7228      | UWCAPOP 8028      | UWCAPOP 8828       | UWCAPOP 9628      |
| 2 - 9 7/8 (860) |                   |                   |                   |                   |                    |                   |                   |                    |                   |
| 2 - 9 7/8 (860) | UWCAP 4032        | UWCAP 4832        | UWCAP 5632        | UWCAP 6032        | UWCAP 6432         | UWCAP 7232        | UWCAP 8032        | UWCAP 8832         | UWCAP 9632        |
| 2 - 9 7/8 (860) | UWCAPOP 4032      | UWCAPOP 4832      | UWCAPOP 5632      | UWCAPOP 6032      | UWCAPOP 6432       | UWCAPOP 7232      | UWCAPOP 8032      | UWCAPOP 8832       | UWCAPOP 9632      |
| 3 - 1 7/8 (962) |                   |                   |                   |                   |                    |                   |                   |                    |                   |
| 3 - 1 7/8 (962) | UWCAP 4036        | UWCAP 4836        | UWCAP 5636        | UWCAP 6036        | UWCAP 6436         | UWCAP 7236        | UWCAP 8036        | UWCAP 8836         | UWCAP 9636        |
| 3 - 1 7/8 (962) | UWCAPOP 4036      | UWCAPOP 4836      | UWCAPOP 5636      | UWCAPOP 6036      | UWCAPOP 6436       | UWCAPOP 7236      | UWCAPOP 8036      | UWCAPOP 8836       | UWCAPOP 9636      |

Ultimate Wood Casement Picture: UWCAP

Ultimate Wood Casement Push Out Picture: UWCAPOP

WOOD CASEMENT PICTURE / WOOD CASEMENT PUSH OUT PICTURE










































| MO (mm)          | 3 - 7 5/8 (1108)  | 4 - 3 5/8 (1311)  | 4 - 11 5/8 (1514) | 5 - 3 5/8 (1616)  | 5 - 7 5/8 (1718)   | 6 - 3 5/8 (1921)  | 6 - 11 5/8 (2124) | 7 - 7 5/8 (2327)   | 8 - 3 5/8 (2531)  |
|------------------|-------------------|-------------------|-------------------|-------------------|--------------------|-------------------|-------------------|--------------------|-------------------|
| RO (mm)          | 3 - 5 (1041)      | 4 - 1 (1245)      | 4 - 9 (1448)      | 5 - 1 (1549)      | 5 - 5 (1651)       | 6 - 1 (1854)      | 6 - 9 (2057)      | 7 - 5 (2261)       | 8 - 1 (2464)      |
| FS (mm)          | 3 - 4 (1016)      | 4 - 0 (1219)      | 4 - 8 (1422)      | 5 - 0 (1524)      | 5 - 4 (1626)       | 6 - 0 (1829)      | 6 - 8 (2032)      | 7 - 4 (2235)       | 8 - 0 (2438)      |
| DLO (mm)         | 2 - 10 3/16 (868) | 3 - 6 3/16 (1072) | 4 - 2 3/16 (1275) | 4 - 6 3/16 (1376) | 4 - 10 3/16 (1478) | 5 - 6 3/16 (1681) | 6 - 2 3/16 (1884) | 6 - 10 3/16 (2088) | 7 - 6 3/16 (2291) |
| 3 - 5 7/8 (1064) |                   |                   |                   |                   |                    |                   |                   |                    |                   |
| 3 - 5 7/8 (1064) | UWCAP 4040        | UWCAP 4840        | UWCAP 5640        | UWCAP 6040        | UWCAP 6440         | UWCAP 7240        | UWCAP 8040        | UWCAP 8840         | UWCAP 9640        |
| 3 - 5 7/8 (1064) | UWCAPOP 4040      | UWCAPOP 4840      | UWCAPOP 5640      | UWCAPOP 6040      | UWCAPOP 6440       | UWCAPOP 7240      | UWCAPOP 8040      | UWCAPOP 8840       | UWCAPOP 9640      |
| 3 - 7 7/8 (1165) |                   |                   |                   |                   |                    |                   |                   |                    |                   |
| 3 - 7 7/8 (1165) | UWCAP 4044        | UWCAP 4844        | UWCAP 5644        | UWCAP 6044        | UWCAP 6444         | UWCAP 7244        | UWCAP 8044        | UWCAP 8844 T       | UWCAP 9644 T      |
| 3 - 7 7/8 (1165) | UWCAPOP 4044      | UWCAPOP 4844      | UWCAPOP 5644      | UWCAPOP 6044      | UWCAPOP 6444       | UWCAPOP 7244      | UWCAPOP 8044      | UWCAPOP 8844 T     | UWCAPOP 9644 T    |
| 3 - 9 7/8 (1267) |                   |                   |                   |                   |                    |                   |                   |                    |                   |
| 3 - 9 7/8 (1267) | UWCAP 4048        | UWCAP 4848        | UWCAP 5648        | UWCAP 6048        | UWCAP 6448         | UWCAP 7248        | UWCAP 8048 T      | UWCAP 8848 T       | UWCAP 9648 T      |
| 3 - 9 7/8 (1267) | UWCAPOP 4048      | UWCAPOP 4848      | UWCAPOP 5648      | UWCAPOP 6048      | UWCAPOP 6448       | UWCAPOP 7248      | UWCAPOP 8048 T    | UWCAPOP 8848 T     | UWCAPOP 9648 T    |
| 4 - 1 7/8 (1419) |                   |                   |                   |                   |                    |                   |                   |                    |                   |
| 4 - 1 7/8 (1419) | UWCAP 4054        | UWCAP 4854        | UWCAP 5654        | UWCAP 6054        | UWCAP 6454         | UWCAP 7254 T      | UWCAP 8054 T      | UWCAP 8854 T       | UWCAP 9654 T      |
| 4 - 1 7/8 (1419) | UWCAPOP 4054      | UWCAPOP 4854      | UWCAPOP 5654      | UWCAPOP 6054      | UWCAPOP 6454       | UWCAPOP 7254 T    | UWCAPOP 8054 T    | UWCAPOP 8854 T     | UWCAPOP 9654 T    |
| 4 - 3 7/8 (1470) |                   |                   |                   |                   |                    |                   |                   |                    |                   |
| 4 - 3 7/8 (1470) | UWCAP 4056        | UWCAP 4856        | UWCAP 5656        | UWCAP 6056        | UWCAP 6456         | UWCAP 7256 T      | UWCAP 8056 T      | UWCAP 8856 T       | UWCAP 9656 T      |
| 4 - 3 7/8 (1470) | UWCAPOP 4056      | UWCAPOP 4856      | UWCAPOP 5656      | UWCAPOP 6056      | UWCAPOP 6456       | UWCAPOP 7256 T    | UWCAPOP 8056 T    | UWCAPOP 8856 T     | UWCAPOP 9656 T    |
| 4 - 5 7/8 (1572) |                   |                   |                   |                   |                    |                   |                   |                    |                   |
| 4 - 5 7/8 (1572) | UWCAP 4060        | UWCAP 4860        | UWCAP 5660        | UWCAP 6060        | UWCAP 6460 T       | UWCAP 7260 T      | UWCAP 8060 T      | UWCAP 8860 T       | UWCAP 9660 T      |
| 4 - 5 7/8 (1572) | UWCAPOP 4060      | UWCAPOP 4860      | UWCAPOP 5660      | UWCAPOP 6060      | UWCAPOP 6460 T     | UWCAPOP 7260 T    | UWCAPOP 8060 T    | UWCAPOP 8860 T     | UWCAPOP 9660 T    |
| 5 - 1 7/8 (1673) |                   |                   |                   |                   |                    |                   |                   |                    |                   |
| 5 - 1 7/8 (1673) | UWCAP 4064        | UWCAP 4864        | UWCAP 5664        | UWCAP 6064 T      | UWCAP 6464 T       | UWCAP 7264 T      | UWCAP 8064 T      | UWCAP 8864 T       | UWCAP 9664 T      |
| 5 - 1 7/8 (1673) | UWCAPOP 4064      | UWCAPOP 4864      | UWCAPOP 5664      | UWCAPOP 6064 T    | UWCAPOP 6464 T     | UWCAPOP 7264 T    | UWCAPOP 8064 T    | UWCAPOP 8864 T     | UWCAPOP 9664 T    |

Details and Elevations not to scale.  
 T For safety and/or code requirements, Marvin recommends tempered glass in all units with a frame size height of 72 1/16" or larger and units with a frame size of 25.2 ft² and larger.  
 \* Larger sizes require 1" insulating glass.

Please consult your local Marvin representative for more information.

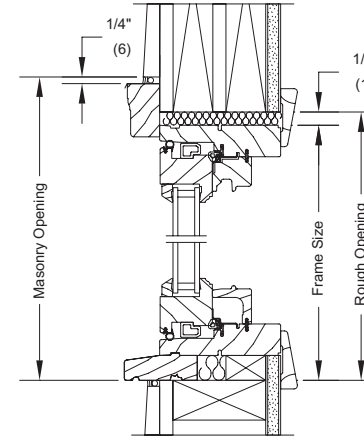
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

**WOOD CASEMENT PICTURE / WOOD CASEMENT PUSH OUT PICTURE**

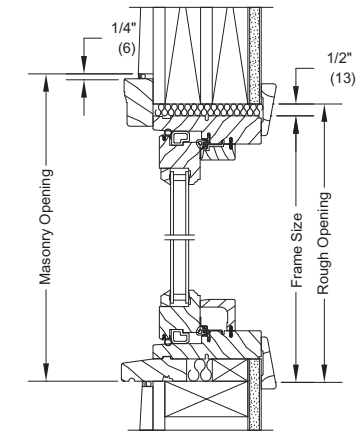
| MO (mm)  | 3 - 7 5/8 (1108)  | 4 - 3 5/8 (1311)  | 4 - 11 5/8 (1514)   | 5 - 3 5/8 (1616)  | 5 - 7 5/8 (1718)  | 6 - 3 5/8 (1921)  | 6 - 11 5/8 (2124)  | 7 - 7 5/8 (2327)  | 8 - 3 5/8 (2531)  |
|--|---|---|---|---|---|---|--|---|---|
| RO (mm)  | 3 - 5 (1041)  | 4 - 1 (1245)  | 4 - 9 (1448)  | 5 - 1 (1549)  | 5 - 5 (1651)  | 6 - 1 (1854)  | 6 - 9 (2057)   | 7 - 5 (2261)  | 8 - 1 (2464)  |
| FS (mm)  | 3 - 4 (1016)  | 4 - 0 (1219)  | 4 - 8 (1422)  | 5 - 0 (1524)  | 5 - 4 (1626)  | 6 - 0 (1829)  | 6 - 8 (2032)   | 7 - 4 (2235)  | 8 - 0 (2438)  |
| DLO (mm)   | 2 - 10 3/16 (868)   | 3 - 6 3/16 (1072)   | 4 - 2 3/16 (1275)   | 4 - 6 3/16 (1376)   | 4 - 10 3/16 (1478)  | 5 - 6 3/16 (1681)   | 6 - 2 3/16 (1884)  | 6 - 10 3/16 (2088)  | 7 - 6 3/16 (2291)   |
| 6 - 1 7/8 (1876)<br>6 - 9/16 (1843)<br>6 - 1/16 (1830)<br>5 - 5 5/16 (1659)      | <br>UWCAP 4072 T<br>UWCAPOP 4072 T   | <br>UWCAP 4872 T<br>UWCAPOP 4872 T   | <br>UWCAP 5672 T<br>UWCAPOP 5672 T   | <br>UWCAP 6072 T<br>UWCAPOP 6072 T   | <br>UWCAP 6472 T<br>UWCAPOP 6472 T   | <br>UWCAP 7272 T*<br>UWCAPOP 7272 T*   | <br>UWCAP 8072 T*<br>UWCAPOP 8072 T*   | <br>UWCAP 8872 T*<br>UWCAPOP 8872 T*   | <br>UWCAP 9672 T*<br>UWCAPOP 9672 T* |
| 6 - 7 7/8 (2029)<br>6 - 6 9/16 (1995)<br>6 - 6 1/16 (1983)<br>5 - 11 5/16 (1811) | <br>UWCAP 4078 T<br>UWCAPOP 4078 T   | <br>UWCAP 4878 T<br>UWCAPOP 4878 T   | <br>UWCAP 5678 T<br>UWCAPOP 5678 T   | <br>UWCAP 6078 T<br>UWCAPOP 6078 T   | <br>UWCAP 6478 T<br>UWCAPOP 6478 T   | <br>UWCAP 7278 T*<br>UWCAPOP 7278 T*   | <br>UWCAP 8078 T*<br>UWCAPOP 8078 T*   | <br>UWCAP 8878 T*<br>UWCAPOP 8878 T*   | <br>UWCAP 9678 T*<br>UWCAPOP 8878 T* |
| 7 - 1 7/8 (2181)<br>7 - 9/16 (2148)<br>7 - 1/16 (2135)<br>6 - 5 5/16 (1964)      | <br>UWCAP 4084 T<br>UWCAPOP 4084 T   | <br>UWCAP 4884 T<br>UWCAPOP 4884 T   | <br>UWCAP 5684 T<br>UWCAPOP 5684 T   | <br>UWCAP 6084 T<br>UWCAPOP 6084 T   | <br>UWCAP 6484 T<br>UWCAPOP 6484 T   | <br>UWCAP 7284 T*<br>UWCAPOP 7284 T*   | <br>UWCAP 8084 T*<br>UWCAPOP 8084 T*   | <br>UWCAP 8884 T*<br>UWCAPOP 8884 T*   | <br>UWCAP 8884 T*<br>UWCAPOP 8884 T* |
| 7 - 9 7/8 (2384)<br>7 - 8 9/16 (2351)<br>7 - 8 1/16 (2338)<br>7 - 1 5/16 (2167)  | <br>UWCAP 4092 T<br>UWCAPOP 4092 T | <br>UWCAP 4892 T<br>UWCAPOP 4892 T | <br>UWCAP 5692 T<br>UWCAPOP 5692 T | <br>UWCAP 6092 T<br>UWCAPOP 6092 T | <br>UWCAP 6492 T<br>UWCAPOP 6492 T | <br>UWCAP 7292 T*<br>UWCAPOP 7292 T* | <br>UWCAP 8092 T*<br>UWCAPOP 8092 T* | <br>UWCAP 8892 T*<br>UWCAPOP 8892 T* |   |
| 8 - 1 7/8 (2486)<br>8 - 9/16 (2453)<br>8 - 1/16 (2440)<br>7 - 5 5/16 (2269)      | <br>UWCAP 4096 T<br>UWCAPOP 4096 T | <br>UWCAP 4896 T<br>UWCAPOP 4896 T | <br>UWCAP 5696 T<br>UWCAPOP 5696 T | <br>UWCAP 6096 T<br>UWCAPOP 6096 T | <br>UWCAP 6496 T<br>UWCAPOP 6496 T | <br>UWCAP 7296 T*<br>UWCAPOP 7296 T* | <br>UWCAP 8096 T*<br>UWCAPOP 8096 T* | <br>UWCAP 8896 T*<br>UWCAPOP 8896 T* |   |

**WOOD CASEMENT / WOOD CASEMENT PUSH OUT PICTURE**

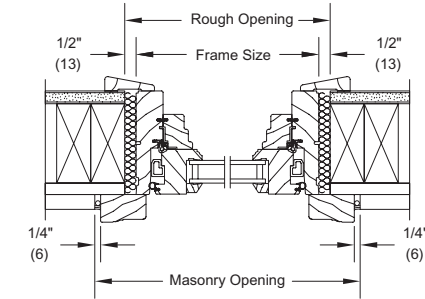
CONSTRUCTION DETAILS



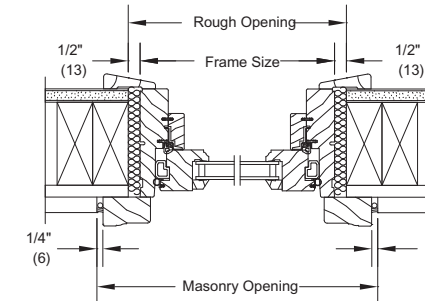
HEAD JAMB AND SILL - PICTURE



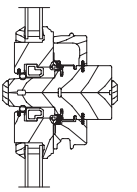
PUSH OUT HEAD JAMB AND SILL - PICTURE



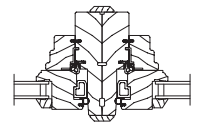
JAMB - PICTURE



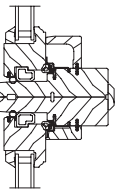
PUSH OUT JAMB - PICTURE



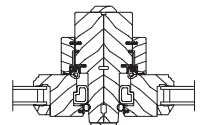
HORIZONTAL MULLION



VERTICAL MULLION



PUSH OUT HORIZONTAL MULLION



PUSH OUT VERTICAL MULLION

Details and Elevations not to scale.

T For safety and/or code requirements, Marvin recommends tempered glass in all units with a frame size height of 72 1/16" or larger and units with a frame size of 25.2 ft² and larger.

\* Larger sizes require 1" insulating glass.

Please consult your local Marvin representative for more information.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

CASEMENT PICTURE / CASEMENT PUSH OUT PICTURE

| MO (mm)  | 3 - 4 1/2 (1028)   | 4 - 1/2 (1232)     | 4 - 8 1/2 (1435)   | 5 - 1/2 (1537)     | 5 - 4 1/2 (1638)    | 6 - 1/2 (1842)     | 6 - 8 1/2 (2045)   | 7 - 4 1/2 (2248)    | 8 - 1/2 (2451)     |
|----------|--------------------|--------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|--------------------|
| RO (mm)  | 3 - 5 (1041)       | 4 - 1 (1245)       | 4 - 9 (1448)       | 5 - 1 (1549)       | 5 - 5 (1651)        | 6 - 1 (1854)       | 6 - 9 (2057)       | 7 - 5 (2261)        | 8 - 1 (2464)       |
| FS (mm)  | 3 - 4 (1016)       | 4 - 0 (1219)       | 4 - 8 (1422)       | 5 - 0 (1524)       | 5 - 4 (1626)        | 6 - 0 (1829)       | 6 - 8 (2032)       | 7 - 4 (2235)        | 8 - 0 (2438)       |
| DLO (mm) | 2 - 10 13/64 (869) | 3 - 6 13/64 (1072) | 4 - 2 13/64 (1275) | 4 - 6 13/64 (1377) | 4 - 10 13/64 (1478) | 5 - 6 13/64 (1682) | 6 - 2 13/64 (1885) | 6 - 10 13/64 (2088) | 7 - 6 13/64 (2291) |

|                    |          |          |          |          |          |            |            |            |            |
|--------------------|----------|----------|----------|----------|----------|------------|------------|------------|------------|
| 0 - 11 3/8 (289)   |          |          |          |          |          |            |            |            |            |
| 0 - 11 5/8 (295)   | UCAP4012 | UCAP4812 | UCAP5612 | UCAP6012 | UCAP6412 | UCAP7212   | UCAP8012   | UCAP8812   | UCAP9612   |
| 0 - 11 1/8 (283)   |          |          |          |          |          |            |            |            |            |
| 0 - 5 21/64 (135)  | UCAP4014 | UCAP4814 | UCAP5614 | UCAP6014 | UCAP6414 | UCAP7214   | UCAP8014   | UCAP8814   | UCAP9614   |
| 1 - 1 3/8 (339)    |          |          |          |          |          |            |            |            |            |
| 1 - 1 5/8 (346)    | UCAP4016 | UCAP4816 | UCAP5616 | UCAP6016 | UCAP6416 | UCAP7216   | UCAP8016   | UCAP8816   | UCAP9616   |
| 1 - 1 1/8 (333)    |          |          |          |          |          |            |            |            |            |
| 0 - 7 21/64 (186)  | UCAP4018 | UCAP4818 | UCAP5618 | UCAP6018 | UCAP6418 | UCAP7218   | UCAP8018   | UCAP8818   | UCAP9618   |
| 1 - 3 3/8 (390)    |          |          |          |          |          |            |            |            |            |
| 1 - 3 5/8 (396)    | UCAP4020 | UCAP4820 | UCAP5620 | UCAP6020 | UCAP6420 | UCAP7220   | UCAP8020   | UCAP8820   | UCAP9620   |
| 1 - 3 1/8 (384)    |          |          |          |          |          |            |            |            |            |
| 0 - 9 21/64 (237)  | UCAP4024 | UCAP4824 | UCAP5624 | UCAP6024 | UCAP6424 | UCAP7224   | UCAP8024   | UCAP8824   | UCAP9624   |
| 1 - 5 3/8 (441)    |          |          |          |          |          |            |            |            |            |
| 1 - 5 5/8 (447)    | UCAP4028 | UCAP4828 | UCAP5628 | UCAP6028 | UCAP6428 | UCAP7228   | UCAP8028   | UCAP8828   | UCAP9628   |
| 1 - 5 1/8 (434)    |          |          |          |          |          |            |            |            |            |
| 0 - 11 21/64 (288) | UCAP4032 | UCAP4832 | UCAP5632 | UCAP6032 | UCAP6432 | UCAP7232   | UCAP8032   | UCAP8832   | UCAP9632   |
| 1 - 7 3/8 (492)    |          |          |          |          |          |            |            |            |            |
| 1 - 7 5/8 (498)    | UCAP4036 | UCAP4836 | UCAP5636 | UCAP6036 | UCAP6436 | UCAP7236   | UCAP8036   | UCAP8836   | UCAP9636   |
| 1 - 7 1/8 (485)    |          |          |          |          |          |            |            |            |            |
| 1 - 1 21/64 (339)  | UCAP4040 | UCAP4840 | UCAP5640 | UCAP6040 | UCAP6440 | UCAP7240   | UCAP8040   | UCAP8840   | UCAP9640 T |
| 1 - 11 3/8 (693)   |          |          |          |          |          |            |            |            |            |
| 1 - 11 5/8 (600)   | UCAP4044 | UCAP4844 | UCAP5644 | UCAP6044 | UCAP6444 | UCAP7244   | UCAP8044   | UCAP8844 T | UCAP9644 T |
| 1 - 11 1/8 (687)   |          |          |          |          |          |            |            |            |            |
| 1 - 5 21/64 (440)  | UCAP4048 | UCAP4848 | UCAP5648 | UCAP6048 | UCAP6448 | UCAP7248   | UCAP8048 T | UCAP8848 T | UCAP9648 T |
| 2 - 3 3/8 (695)    |          |          |          |          |          |            |            |            |            |
| 2 - 3 5/8 (701)    | UCAP4052 | UCAP4852 | UCAP5652 | UCAP6052 | UCAP6452 | UCAP7252 T | UCAP8052 T | UCAP8852 T | UCAP9652 T |
| 2 - 3 1/8 (688)    |          |          |          |          |          |            |            |            |            |
| 1 - 9 21/64 (542)  | UCAP4054 | UCAP4854 | UCAP5654 | UCAP6054 | UCAP6454 | UCAP7254 T | UCAP8054 T | UCAP8854 T | UCAP9654 T |
| 4 - 7 3/8 (1406)   |          |          |          |          |          |            |            |            |            |
| 4 - 7 5/8 (1412)   | UCAP4056 | UCAP4856 | UCAP5656 | UCAP6056 | UCAP6456 | UCAP7256 T | UCAP8056 T | UCAP8856 T | UCAP9656 T |
| 4 - 7 1/8 (1400)   |          |          |          |          |          |            |            |            |            |
| 4 - 1 21/64 (1253) | UCAP4032 | UCAP4832 | UCAP5632 | UCAP6032 | UCAP6432 | UCAP7232   | UCAP8032   | UCAP8832   | UCAP9632   |

CASEMENT PICTURE / CASEMENT PUSH OUT PICTURE

| MO (mm)  | 3 - 4 1/2 (1028)   | 4 - 1/2 (1232)     | 4 - 8 1/2 (1435)   | 5 - 1/2 (1537)     | 5 - 4 1/2 (1638)    | 6 - 1/2 (1842)     | 6 - 8 1/2 (2045)   | 7 - 4 1/2 (2248)    | 8 - 1/2 (2451)     |
|----------|--------------------|--------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|--------------------|
| RO (mm)  | 3 - 5 (1041)       | 4 - 1 (1245)       | 4 - 9 (1448)       | 5 - 1 (1549)       | 5 - 5 (1651)        | 6 - 1 (1854)       | 6 - 9 (2057)       | 7 - 5 (2261)        | 8 - 1 (2464)       |
| FS (mm)  | 3 - 4 (1016)       | 4 - 0 (1219)       | 4 - 8 (1422)       | 5 - 0 (1524)       | 5 - 4 (1626)        | 6 - 0 (1829)       | 6 - 8 (2032)       | 7 - 4 (2235)        | 8 - 0 (2438)       |
| DLO (mm) | 2 - 10 13/64 (869) | 3 - 6 13/64 (1072) | 4 - 2 13/64 (1275) | 4 - 6 13/64 (1377) | 4 - 10 13/64 (1478) | 5 - 6 13/64 (1682) | 6 - 2 13/64 (1885) | 6 - 10 13/64 (2088) | 7 - 6 13/64 (2291) |

|                    |          |          |          |          |          |            |            |            |            |
|--------------------|----------|----------|----------|----------|----------|------------|------------|------------|------------|
| 2 - 7 3/8 (796)    |          |          |          |          |          |            |            |            |            |
| 2 - 7 5/8 (803)    | UCAP4032 | UCAP4832 | UCAP5632 | UCAP6032 | UCAP6432 | UCAP7232   | UCAP8032   | UCAP8832   | UCAP9632   |
| 2 - 7 1/8 (790)    |          |          |          |          |          |            |            |            |            |
| 2 - 1 21/64 (643)  | UCAP4036 | UCAP4836 | UCAP5636 | UCAP6036 | UCAP6436 | UCAP7236   | UCAP8036   | UCAP8836   | UCAP9636   |
| 2 - 11 3/8 (898)   |          |          |          |          |          |            |            |            |            |
| 2 - 11 5/8 (904)   | UCAP4040 | UCAP4840 | UCAP5640 | UCAP6040 | UCAP6440 | UCAP7240   | UCAP8040   | UCAP8840   | UCAP9640 T |
| 2 - 11 1/8 (892)   |          |          |          |          |          |            |            |            |            |
| 2 - 5 21/64 (745)  | UCAP4044 | UCAP4844 | UCAP5644 | UCAP6044 | UCAP6444 | UCAP7244   | UCAP8044   | UCAP8844 T | UCAP9644 T |
| 3 - 3 3/8 (1000)   |          |          |          |          |          |            |            |            |            |
| 3 - 3 5/8 (1006)   | UCAP4048 | UCAP4848 | UCAP5648 | UCAP6048 | UCAP6448 | UCAP7248   | UCAP8048 T | UCAP8848 T | UCAP9648 T |
| 3 - 3 1/8 (993)    |          |          |          |          |          |            |            |            |            |
| 2 - 9 21/64 (847)  | UCAP4052 | UCAP4852 | UCAP5652 | UCAP6052 | UCAP6452 | UCAP7252 T | UCAP8052 T | UCAP8852 T | UCAP9652 T |
| 3 - 7 3/8 (1101)   |          |          |          |          |          |            |            |            |            |
| 3 - 7 5/8 (1108)   | UCAP4054 | UCAP4854 | UCAP5654 | UCAP6054 | UCAP6454 | UCAP7254 T | UCAP8054 T | UCAP8854 T | UCAP9654 T |
| 3 - 7 1/8 (1095)   |          |          |          |          |          |            |            |            |            |
| 3 - 1 21/64 (948)  | UCAP4056 | UCAP4856 | UCAP5656 | UCAP6056 | UCAP6456 | UCAP7256 T | UCAP8056 T | UCAP8856 T | UCAP9656 T |
| 3 - 11 3/8 (1203)  |          |          |          |          |          |            |            |            |            |
| 3 - 11 5/8 (1209)  | UCAP4058 | UCAP4858 | UCAP5658 | UCAP6058 | UCAP6458 | UCAP7258 T | UCAP8058 T | UCAP8858 T | UCAP9658 T |
| 3 - 11 1/8 (1196)  |          |          |          |          |          |            |            |            |            |
| 3 - 5 21/64 (1050) | UCAP4054 | UCAP4854 | UCAP5654 | UCAP6054 | UCAP6454 | UCAP7254 T | UCAP8054 T | UCAP8854 T | UCAP9654 T |
| 4 - 5 3/8 (1355)   |          |          |          |          |          |            |            |            |            |
| 4 - 5 5/8 (1362)   | UCAP4056 | UCAP4856 | UCAP5656 | UCAP6056 | UCAP6456 | UCAP7256 T | UCAP8056 T | UCAP8856 T | UCAP9656 T |
| 4 - 5 1/8 (1349)   |          |          |          |          |          |            |            |            |            |
| 3 11 21/64 (1202)  | UCAP4058 | UCAP4858 | UCAP5658 | UCAP6058 | UCAP6458 | UCAP7258 T | UCAP8058 T | UCAP8858 T | UCAP9658 T |
| 4 - 7 3/8 (1406)   |          |          |          |          |          |            |            |            |            |
| 4 - 7 5/8 (1412)   | UCAP4056 | UCAP4856 | UCAP5656 | UCAP6056 | UCAP6456 | UCAP7256 T | UCAP8056 T | UCAP8856 T | UCAP9656 T |
| 4 - 7 1/8 (1400)   |          |          |          |          |          |            |            |            |            |
| 4 - 1 21/64 (1253) | UCAP4058 | UCAP4858 | UCAP5658 | UCAP6058 | UCAP6458 | UCAP7258 T | UCAP8058 T | UCAP8858 T | UCAP9658 T |

Details and Elevations not to scale.  
 T For safety and/or code requirements, Marvin recommends tempered glass in all units with a frame size height of 72 1/16" or larger and units with a frame size of 25.2 ft² and larger.  
 \* Larger sizes require 1" insulating glass.

Please consult your local Marvin representative for more information.  
 For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

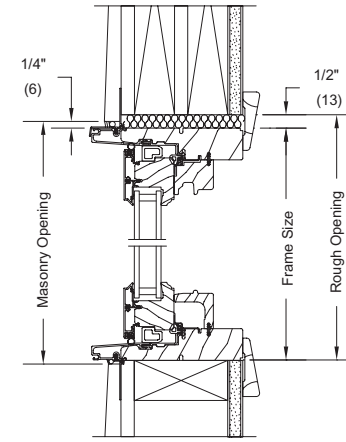
Ultimate Casement Picture: UCAP  
 Ultimate Casement Push Out Picture: UCAPOP

CASEMENT PICTURE / CASEMENT PUSH OUT PICTURE

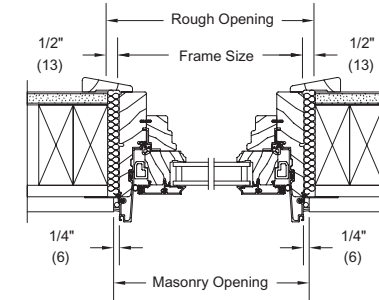
| MO (mm)             | 3 - 4 (1028)       | 4 - 1/2 (1232)     | 4 - 8 1/2 (1435)   | 5 - 1/2 (1537)     | 5 - 4 1/2 (1638)    | 6 - 1/2 (1842)     | 6 - 8 1/2 (2045)   | 7 - 4 1/2 (2248)    | 8 - 1/2 (2451)     |
|---------------------|--------------------|--------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|--------------------|
| RO (mm)             | 3 - 5 (1041)       | 4 - 1 (1245)       | 4 - 9 (1448)       | 5 - 1 (1549)       | 5 - 5 (1651)        | 6 - 1 (1854)       | 6 - 9 (2057)       | 7 - 5 (2261)        | 8 - 1 (2464)       |
| FS (mm)             | 3 - 4 (1016)       | 4 - 0 (1219)       | 4 - 8 (1422)       | 5 - 0 (1524)       | 5 - 4 (1626)        | 6 - 0 (1829)       | 6 - 8 (2032)       | 7 - 4 (2235)        | 8 - 0 (2438)       |
| DLO (mm)            | 2 - 10 13/64 (869) | 3 - 6 13/64 (1072) | 4 - 2 13/64 (1275) | 4 - 6 13/64 (1377) | 4 - 10 13/64 (1478) | 5 - 6 13/64 (1682) | 6 - 2 13/64 (1885) | 6 - 10 13/64 (2088) | 7 - 6 13/64 (2291) |
| 4 - 11 3/8 (1508)   |                    |                    |                    |                    |                     |                    |                    |                     |                    |
| 4 - 11 5/8 (1514)   | UCAP4060           | UCAP4860           | UCAP5660           | UCAP6060           | UCAP6460 T          | UCAP7260 T         | UCAP8060 T         | UCAP8860 T          | UCAP9660 T         |
| 4 - 11 7/8 (1501)   |                    |                    |                    |                    |                     |                    |                    |                     |                    |
| 4 - 5 21/64 (1355)  |                    |                    |                    |                    |                     |                    |                    |                     |                    |
| 5 - 3 3/8 (1609)    |                    |                    |                    |                    |                     |                    |                    |                     |                    |
| 5 - 3 5/8 (1616)    | UCAP4064           | UCAP4864           | UCAP5664           | UCAP6064 T         | UCAP6464 T          | UCAP7264 T         | UCAP8064 T         | UCAP8864 T          | UCAP9664 T         |
| 5 - 3 7/8 (1603)    |                    |                    |                    |                    |                     |                    |                    |                     |                    |
| 4 - 9 21/64 (1456)  |                    |                    |                    |                    |                     |                    |                    |                     |                    |
| 5 - 11 3/8 (1812)   |                    |                    |                    |                    |                     |                    |                    |                     |                    |
| 5 - 11 5/8 (1819)   | UCAP4072 T         | UCAP4872 T         | UCAP5672 T         | UCAP6072 T         | UCAP6472 T          | UCAP7272 T*        | UCAP8072 T*        | UCAP8872 T*         | UCAP9672 T*        |
| 5 - 11 7/8 (1806)   |                    |                    |                    |                    |                     |                    |                    |                     |                    |
| 5 - 5 21/64 (1659)  |                    |                    |                    |                    |                     |                    |                    |                     |                    |
| 6 - 5 3/8 (1966)    |                    |                    |                    |                    |                     |                    |                    |                     |                    |
| 6 - 5 5/8 (1971)    | UCAP4078 T         | UCAP4878 T         | UCAP5678 T         | UCAP6078 T         | UCAP6478 T          | UCAP7278 T*        | UCAP8078 T*        | UCAP8878 T*         | UCAP9678 T*        |
| 6 - 5 7/8 (1958)    |                    |                    |                    |                    |                     |                    |                    |                     |                    |
| 5 - 11 21/64 (1812) |                    |                    |                    |                    |                     |                    |                    |                     |                    |
| 6 - 11 3/8 (2117)   |                    |                    |                    |                    |                     |                    |                    |                     |                    |
| 6 - 11 5/8 (2124)   | UCAP4084 T         | UCAP4884 T         | UCAP5684 T         | UCAP6084 T         | UCAP6484 T          | UCAP7284 T*        | UCAP8084 T*        | UCAP8884 T*         | UCAP9684 T*        |
| 6 - 11 7/8 (2111)   |                    |                    |                    |                    |                     |                    |                    |                     |                    |
| 6 - 5 21/64 (1964)  |                    |                    |                    |                    |                     |                    |                    |                     |                    |
| 7 - 7 3/8 (2320)    |                    |                    |                    |                    |                     |                    |                    |                     |                    |
| 7 - 7 5/8 (2327)    | UCAP4092 T         | UCAP4892 T         | UCAP5692 T         | UCAP6092 T         | UCAP6492 T          | UCAP7292 T*        | UCAP8092 T*        | UCAP8892 T*         |                    |
| 7 - 7 7/8 (2314)    |                    |                    |                    |                    |                     |                    |                    |                     |                    |
| 7 - 1 21/64 (2167)  |                    |                    |                    |                    |                     |                    |                    |                     |                    |
| 7 - 11 3/8 (2422)   |                    |                    |                    |                    |                     |                    |                    |                     |                    |
| 7 - 11 5/8 (2428)   | UCAP4096 T         | UCAP4896 T         | UCAP5696 T         | UCAP6096 T         | UCAP6496 T          | UCAP7296 T*        | UCAP8096 T*        | UCAP8896 T*         |                    |
| 7 - 11 7/8 (2416)   |                    |                    |                    |                    |                     |                    |                    |                     |                    |
| 7 - 5 21/64 (2269)  |                    |                    |                    |                    |                     |                    |                    |                     |                    |

CASEMENT PICTURE / CASEMENT PUSH OUT PICTURE

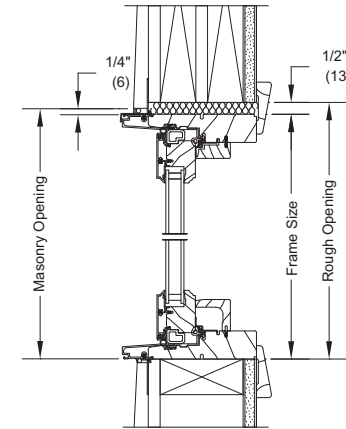
CONSTRUCTION DETAILS



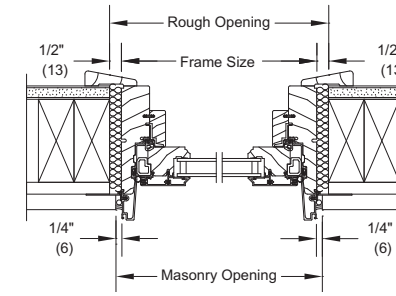
HEAD JAMB AND SILL - PICTURE



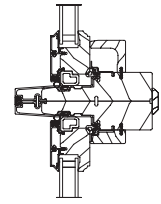
JAMB - PICTURE



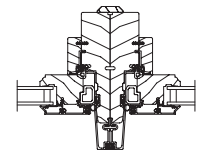
PUSH OUT HEAD JAMB AND SILL - PICTURE



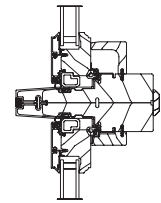
PUSH OUT JAMB - PICTURE



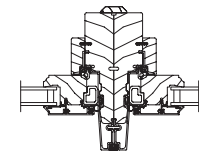
HORIZONTAL MULLION



VERTICAL MULLION



PUSH OUT HORIZONTAL MULLION PICTURE



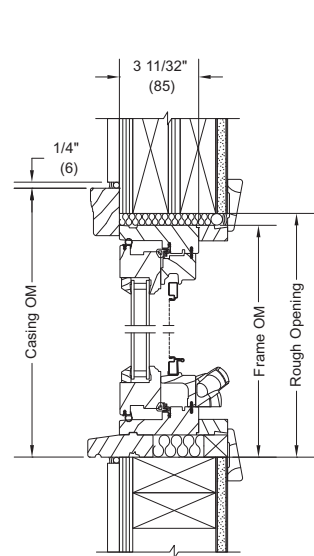
PUSH OUT VERTICAL MULLION PICTURE

Details and Elevations not to scale.  
 T For safety and/or code requirements, Marvin recommends tempered glass in all units with a frame size height of 72 1/16" or larger and units with a frame size of 25.2 ft² and larger.  
 \* Larger sizes require 1" insulating glass.

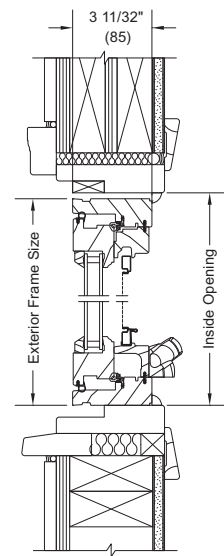
Please consult your local Marvin representative for more information.  
 For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

**WOOD CASEMENT NARROW FRAME / WOOD AWNING NARROW FRAME**

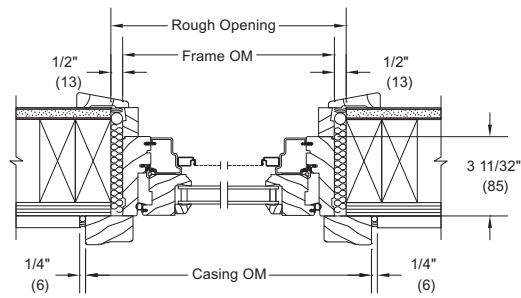
CONSTRUCTION DETAILS



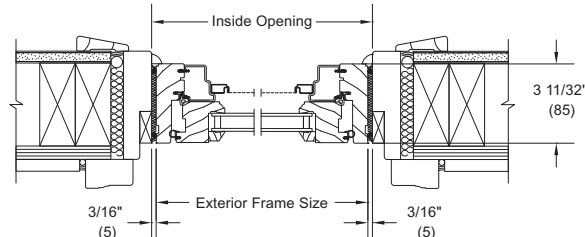
FULL FRAME REPLACE HEAD JAMB, WOOD SIDING



IN CASEMENT FRAME HEAD JAMB, WOOD SIDING



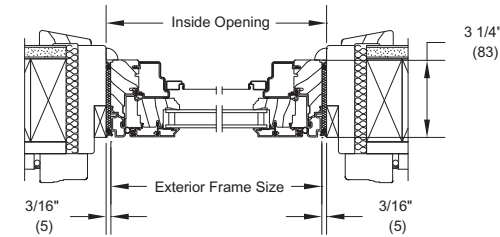
FULL FRAME REPLACE JAMBS, WOOD SIDING



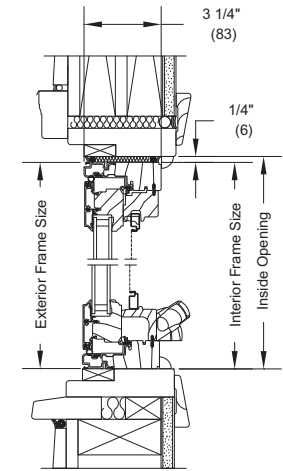
IN CASEMENT FRAME JAMBS, WOOD SIDING

**CASEMENT NARROW FRAME**

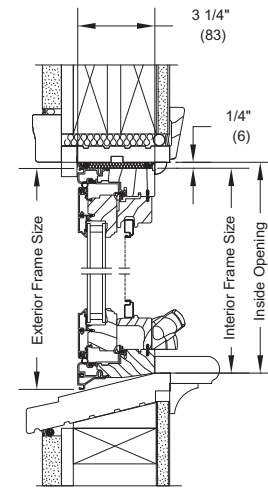
CONSTRUCTION DETAILS



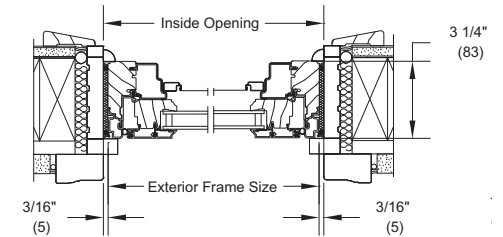
IN CASEMENT FRAME JAMBS WOOD SIDING



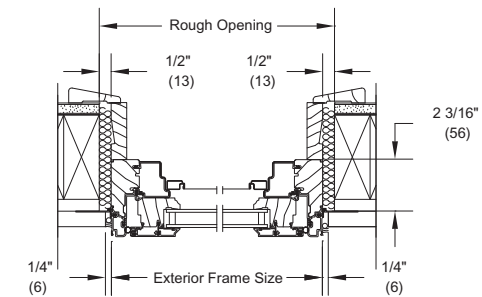
IN CASEMENT FRAME HEAD JAMB, SILL WOOD SIDING



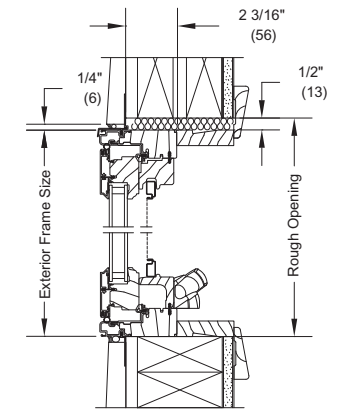
IN DOUBLE HUNG FRAME HEAD JAMB, SILL STUCCO



IN DOUBLE HUNG FRAME JAMBS STUCCO



FULL FRAME REPLACE JAMBS WOOD SIDING



FULL FRAME REPLACE HEAD JAMB, SILL WOOD SIDING

Details and Elevations not to scale.

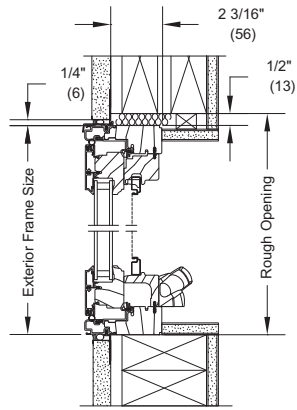
- Ultimate Casement Narrow Frame Windows are manufactured to your specifications. For additional information, contact your local Marvin representative.
- Also available as Casement Push Out and Awning Push Out.
- The frame size is 3 11/32".
- On sizes less than 20" wide, sash does not rotate into wash mode.
- Bottom of the sill is available with either a flat, 8' or 14' frame bevel.
- For complete measurement instructions, visit Marvin.com.

Please consult your local Marvin representative for more information.

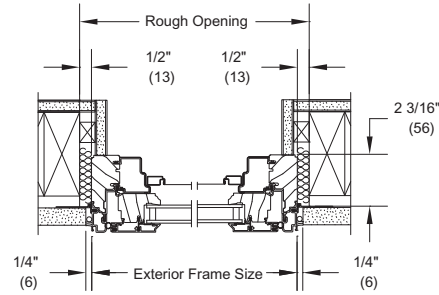
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

# CASEMENT NARROW FRAME

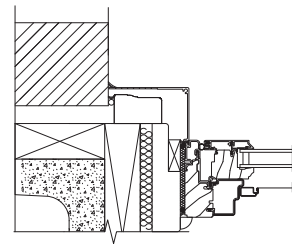
## CONSTRUCTION DETAILS



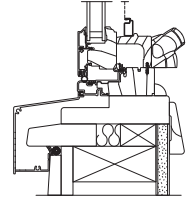
FULL FRAME REPLACE HEAD JAMB, SILL STUCCO



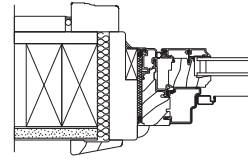
FULL FRAME REPLACE JAMBS STUCCO



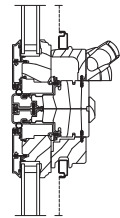
PANNING OPTIONS MASONRY



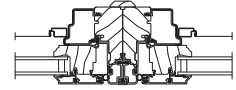
PANNING OPTIONS SILL



PANNING OPTIONS FRAME EXPANDER



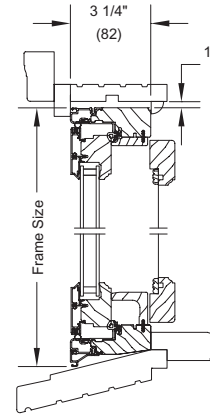
HORIZONTAL MULLION OPERATOR



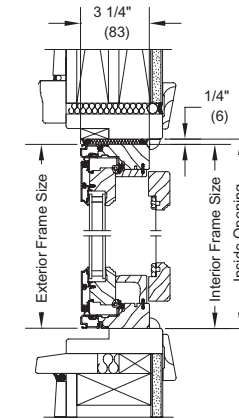
VERTICAL MULLION OPERATOR

# CASEMENT NARROW FRAME PUSH OUT

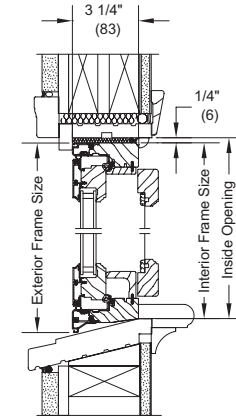
## CONSTRUCTION DETAILS - WITH SCREEN



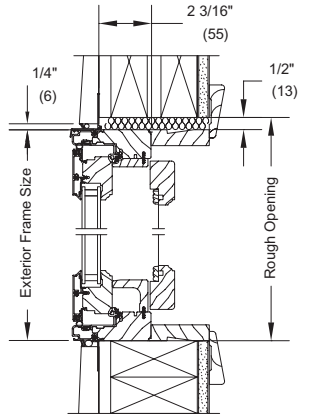
OPERATOR HEAD JAMB AND SILL



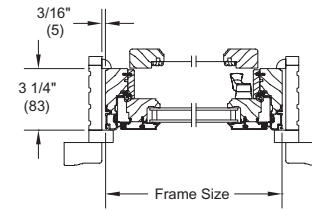
HEAD JAMB AND SILL WOOD SIDING



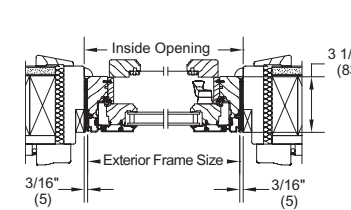
DOUBLE HUNG HEAD JAMB AND SILL STUCCO



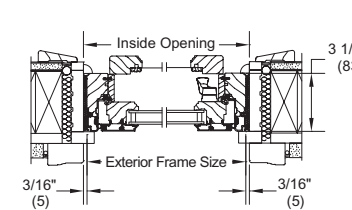
FULL FRAME HEAD JAMB AND SILL WOOD SIDING



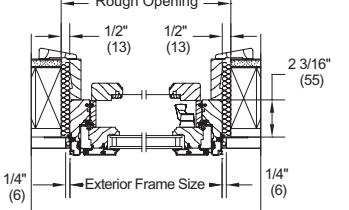
OPERATOR JAMB



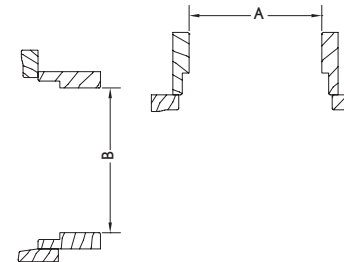
JAMB WOOD SIDING



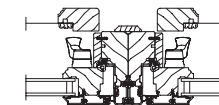
DOUBLE HUNG JAMB STUCCO



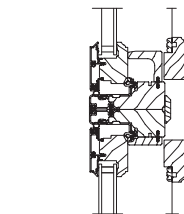
FULL FRAME JAMB WOOD SIDING



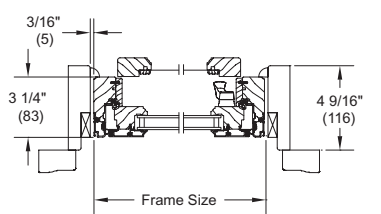
MEASUREMENT INSTRUCTIONS EXISTING WINDOW FRAME



OPERATOR VERTICAL MULLION



OPERATOR HORIZONTAL MULLION



FULL FRAME JAMB INSTALLED IN EXISTING FRAME

Details and Elevations not to scale.

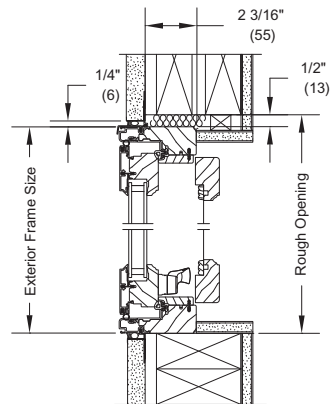
- Ultimate Casement Narrow Frame Windows are manufactured to your specifications.
- 2 3/16" jambs (full frame installation) 3 1/4" jambs frame-in-frame insert application.
- On sizes less than 20" wide, sash does not rotate into wash mode.
- Bottom of the sill is available with either a flat, 8" or 14" frame bevel.
- For complete measurement instructions, visit [Marvin.com](http://Marvin.com).

Please consult your local Marvin representative for more information.

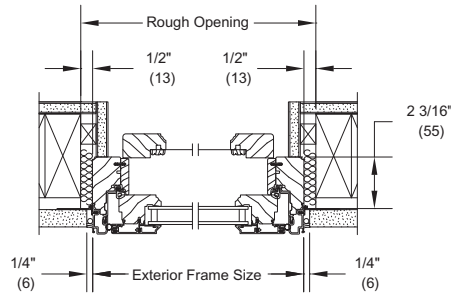
For further details and drawings visit the 'Tools and Documents' section at [Marvin.com](http://Marvin.com).

**CASEMENT NARROW FRAME PUSH OUT**

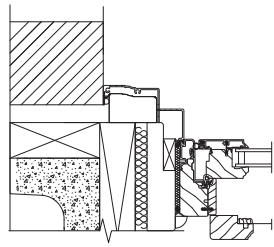
CONSTRUCTION DETAILS



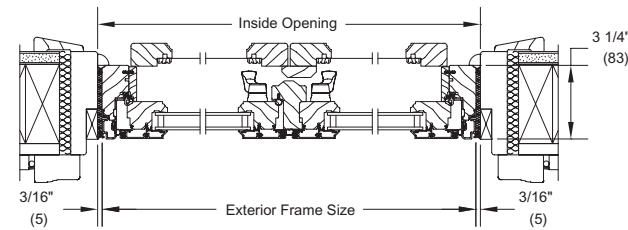
FULL FRAME HEAD JAMB AND SILL STUCCO



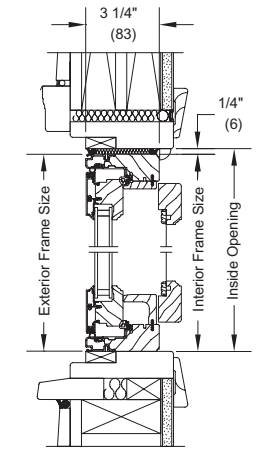
FULL FRAME JAMB STUCCO



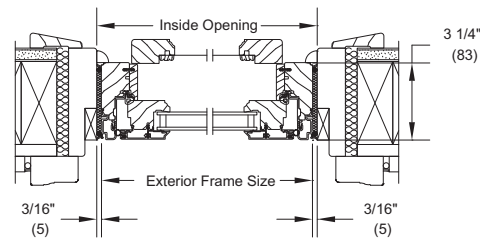
PANNING OPTIONS MASONRY



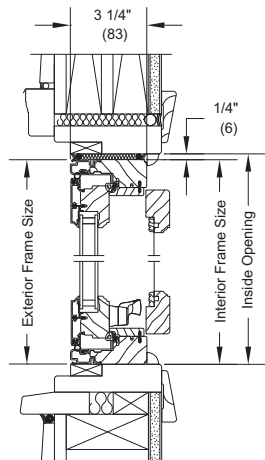
IN CASEMENT FRAME JAMBS WOOD SIDING



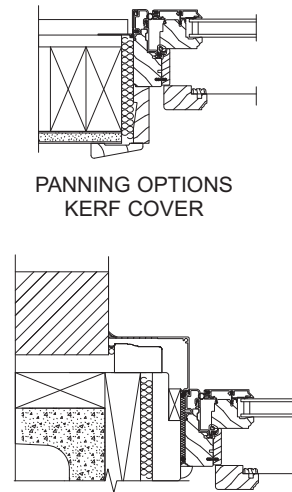
IN CASEMENT FRAME HEAD JAMB, SILL WOOD SIDING



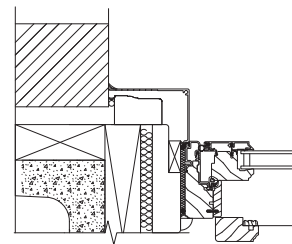
JAMB INSTALLED IN EXISTING CM FRAME



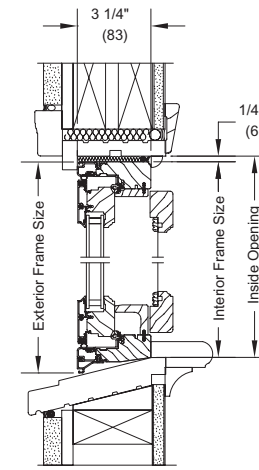
HEAD JAMB AND SILL INSTALLED IN EXISTING CM FRAME



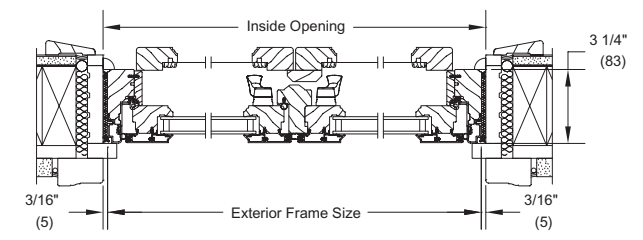
PANNING OPTIONS KERF COVER



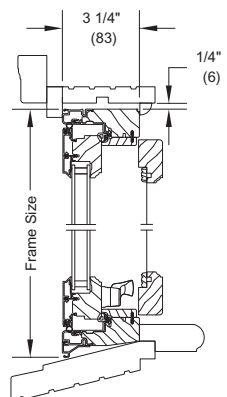
PANNING OPTIONS MASONRY



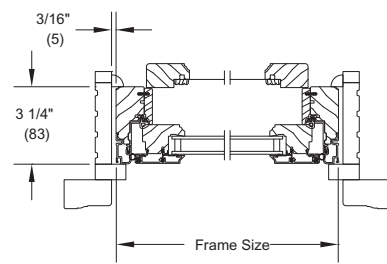
IN DOUBLE HUNG FRAME HEAD JAMB, SILL STUCCO



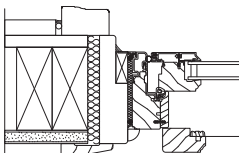
IN DOUBLE HUNG FRAME JAMBS STUCCO



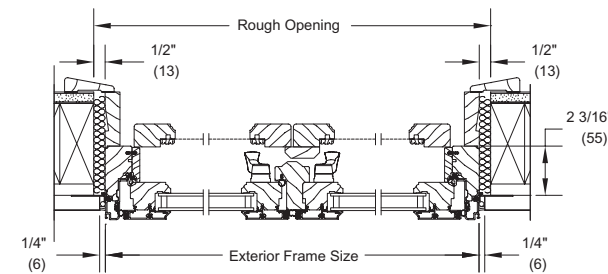
OPERATOR HEAD JAMB AND SILL INSTALLED IN EXISTING DH FRAME



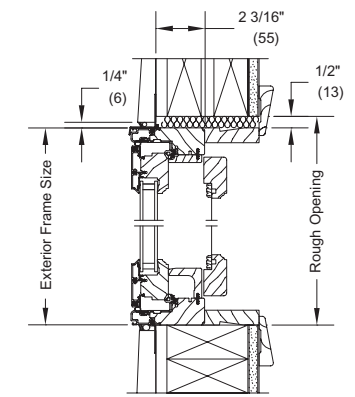
OPERATOR JAMB INSTALLED IN EXISTING DH FRAME



PANNING OPTIONS FRAME EXPANDER



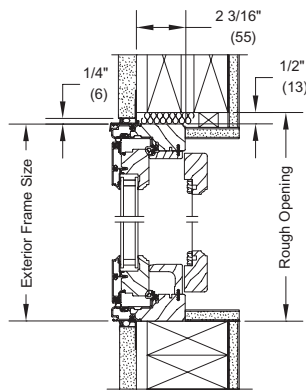
FULL FRAME REPLACE JAMBS WOOD SIDING



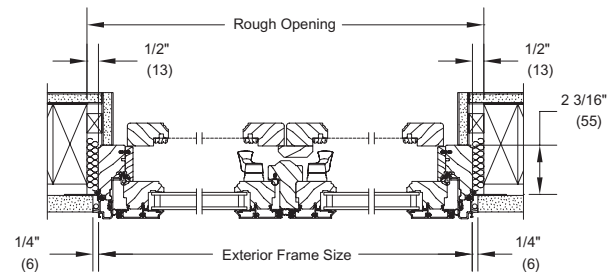
FULL FRAME REPLACE HEAD JAMB, SILL WOOD SIDING

## FRENCH CASEMENT NARROW FRAME PUSH OUT

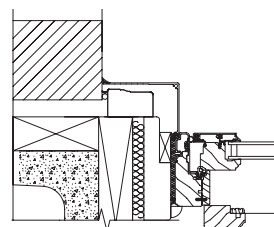
### CONSTRUCTION DETAILS



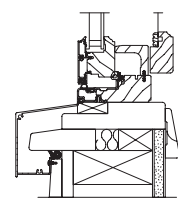
FULL FRAME REPLACE  
HEAD JAMB, SILL STUCCO



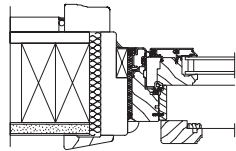
FULL FRAME REPLACE  
JAMBS STUCCO



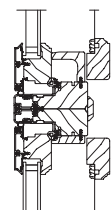
PANNING OPTIONS  
MASONRY



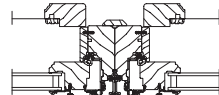
PANNING OPTIONS  
SILL



PANNING OPTIONS  
FRAME EXPANDER



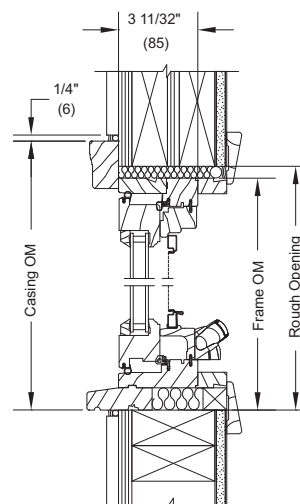
HORIZONTAL MULLION  
OPERATOR



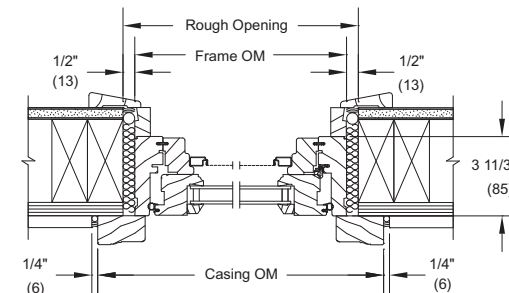
VERTICAL MULLION  
OPERATOR

## WOOD CASEMENT NARROW FRAME ROUND TOP / CASEMENT NARROW FRAME ROUND TOP

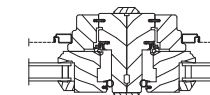
### CONSTRUCTION DETAILS



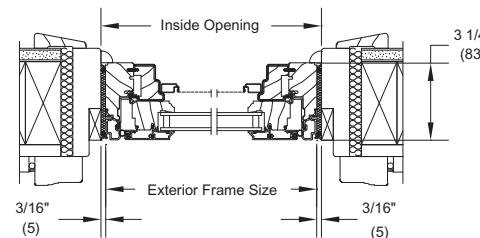
WOOD  
FULL FRAME REPLACE  
HEAD JAMB AND SILL



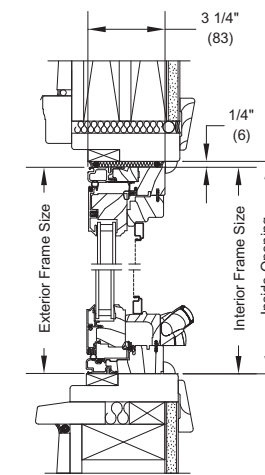
WOOD  
FULL FRAME REPLACE  
JAMBS



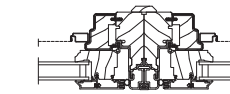
WOOD  
HORIZONTAL MULLION  
OPERATOR



CLAD  
INSTALLED IN EXISTING CM FRAME JAMBS



CLAD  
INSTALLED IN EXISTING CM FRAME  
HEAD JAMB AND SILL



CLAD  
HORIZONTAL MULLION  
OPERATOR

Details and Elevations not to scale.

- Ultimate Casement Narrow Frame Windows are manufactured to your specifications.
- Available as a clad wood window only.
- 2 3/16" jambs (full frame installation) 3 1/4" jambs frame-in-frame insert application.
- On sizes less than 20" wide, sash does not rotate into wash mode.
- Bottom of the sill is available with either a flat, 8° or 14° frame bevel.
- For complete measurement instructions, visit [Marvin.com](http://Marvin.com).

Please consult your local Marvin representative for more information.

For further details and drawings visit the 'Tools and Documents' section at [Marvin.com](http://Marvin.com).

Details and Elevations not to scale.

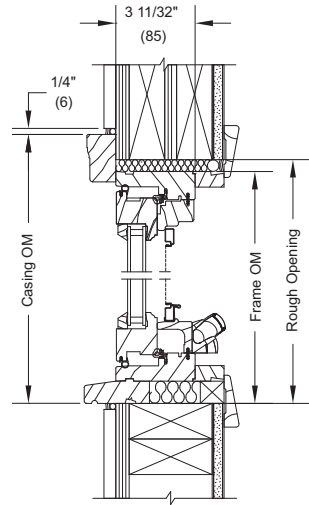
- Ultimate Casement Narrow Frame Windows are manufactured to your specifications.
- Available as a clad wood window only.
- 2 3/16" jambs (full frame installation) 3 1/4" jambs frame-in-frame insert application.
- Marvin exclusive wash mode is not available on Ultimate Casement Narrow Frame Round Tops.
- Operator shown. Stationary also available.
- For complete measurement instructions, visit [Marvin.com](http://Marvin.com).

Please consult your local Marvin representative for more information.

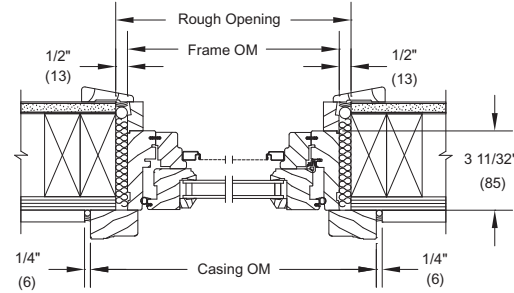
For further details and drawings visit the 'Tools and Documents' section at [Marvin.com](http://Marvin.com).

# WOOD CASEMENT NARROW FRAME OPERATOR POLYGON / CASEMENT NARROW FRAME POLYGON

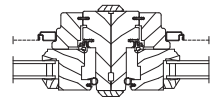
## CONSTRUCTION DETAILS



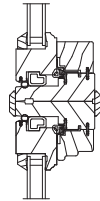
**WOOD FULL FRAME REPLACE HEAD JAMB AND SILL**



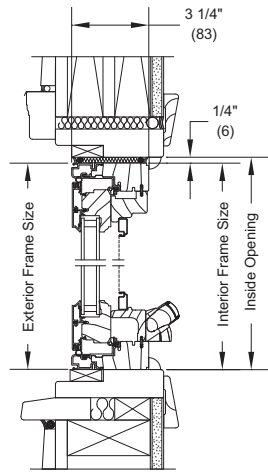
**WOOD FULL FRAME REPLACE JAMBS**



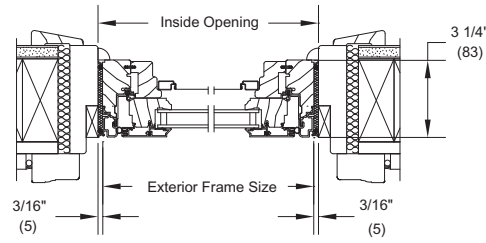
**WOOD VERTICAL MULLION OPERATOR**



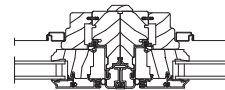
**WOOD HORIZONTAL MULLION OPERATOR**



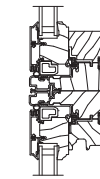
**CLAD INSTALLED IN EXISTING CM FRAME HEAD JAMB AND SILL**



**CLAD INSTALLED IN EXISTING CM FRAME JAMBS**



**CLAD VERTICAL MULLION OPERATOR**



**CLAD HORIZONTAL MULLION OPERATOR**

Details and Elevations not to scale.

- Ultimate Casement Narrow Frame Windows are manufactured to your specifications.
- 2 3/16" jambs (full frame installation) 3 1/4" jambs frame-in-frame insert application.
- On sizes less than 20" wide, sash does not rotate into wash mode.
- Marvin exclusive wash mode is not available on Ultimate Casement Narrow Frame Polygon.
- Operator shown. Stationary also available.
- For complete measurement instructions, visit [Marvin.com](http://Marvin.com).

Please consult your local Marvin representative for more information.

For further details and drawings visit the 'Tools and Documents' section at [Marvin.com](http://Marvin.com).

# WOOD CASEMENT ROUND TOP

## RT6 EYEBROW ABOVE SPRINGLINE STANDARD SIZES - OPERATOR AND STATIONARY

| RO (mm)           | 1 - 5 (432) | 1 - 7 (483) | 1 - 9 (533) | 2 - 1 (635) | 2 - 3 (686) | 2 - 5 (737) | 2 - 7 (787) | 2 - 9 (838) | 3 - 1 (940) |
|-------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 2 - 8 9/16 (827)  |             |             |             |             |             |             |             |             |             |
| 3 - 9/16 (929)    |             |             |             |             |             |             |             |             |             |
| 3 - 4 9/16 (1030) |             |             |             |             |             |             |             |             |             |
| 3 - 8 9/16 (1132) |             |             |             |             |             |             |             |             |             |
| 4 - 9/16 (1234)   |             |             |             |             |             |             |             |             |             |
| 4 - 6 9/16 (1386) |             |             |             |             |             |             |             |             |             |

Details and Elevations not to scale.

- Marvin exclusive wash mode is not available on Ultimate Casement Round Tops.
- Rough opening height includes 15/16" subsill.
- E These windows meet national Egress codes for fire evacuation. Local codes may differ.

Ultimate Wood Casement Round Top: UWCART

### WOOD CASEMENT ROUND TOP

RT6 EYEBROW ABOVE SPRINGLINE STANDARD SIZES - OPERATOR AND STATIONARY

| RO (mm)           | 1 - 5 (432) | 1 - 7 (483) | 1 - 9 (533) | 2 - 1 (635) | 2 - 3 (686) | 2 - 5 (737) | 2 - 7 (787) | 2 - 9 (838) | 3 - 1 (940) | 3 - 5 (1041) |
|-------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| 4 - 8 9/16 (1437) |             |             |             |             |             |             |             |             |             |              |
| 5 - 9/16 (1538)   |             |             |             |             |             |             |             |             |             |              |
| 5 - 4 9/16 (1640) |             |             |             |             |             |             |             |             |             |              |
| 6 - 9/16 (1843)   |             |             |             |             |             |             |             |             |             |              |
| 6 - 6 9/16 (1996) |             |             |             |             |             |             |             |             |             |              |

### WOOD CASEMENT ROUND TOP

RT6 EYEBROW ABOVE SPRINGLINE STANDARD SIZES - OPERATOR AND STATIONARY

| RO (mm)           | 1 - 5 (432) | 1 - 7 (483) | 1 - 9 (533) | 2 - 1 (635) | 2 - 3 (686) | 2 - 5 (737) | 2 - 7 (787) | 2 - 9 (838) | 3 - 1 (940) | 3 - 5 (1041) |
|-------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| 7 - 1/16 (2195)   |             |             |             |             |             |             |             |             |             |              |
| 7 - 8 1/16 (2338) |             |             |             |             |             |             |             |             |             |              |
| 8 - 1/16 (2440)   |             |             |             |             |             |             |             |             |             |              |

Details and Elevations not to scale.

- Marvin exclusive wash mode is not available on Ultimate Casement Round Tops.
- Rough opening height includes <sup>15</sup>/<sub>16</sub>" subsill.

E These windows meet national Egress codes for fire evacuation. Local codes may differ.






































T For safety and/or code requirements, Marvin recommends tempered glass in all units with a frame size height of 71 <sup>1</sup>/<sub>8</sub>" or larger and units with basic frame size 25.2 ft<sup>2</sup> and larger.

Please consult your local Marvin representative for more information.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.










### WOOD CASEMENT ROUND TOP

RT21 / RT22 TWO WIDE STANDARD SIZES - OPERATOR AND STATIONARY

| RO (mm)         | 2-9 (838)   | 3-1 (940)   | 3-5 (1041)  | 4-1 (1245)  | 4-5 (1346)  | 4-9 (1448)  |
|-----------------|---|---|---|---|---|---|
| 2-9 9/16 (827)  | <br>UWCART 2W 1632   |   |   |   |   |   |
| 3-0 9/16 (829)  | <br>UWCART 2W 1636   | <br>UWCART 2W 1836   | <br>UWCART 2W 2036   |   |   |   |
| 3-4 9/16 (1030) | <br>UWCART 2W 1640   | <br>UWCART 2W 1840   | <br>UWCART 2W 2040   | <br>UWCART 2W 2440   |   |   |
| 3-8 9/16 (1132) | <br>UWCART 2W 1644   | <br>UWCART 2W 1844   | <br>UWCART 2W 2044   | <br>UWCART 2W 2444   |   | <br>UWCART 2W 2844     |
| 4-0 9/16 (1234) | <br>UWCART 2W 1648   | <br>UWCART 2W 1848   | <br>UWCART 2W 2048   | <br>UWCART 2W 2448   | <br>UWCART 2W 2648   | <br>UWCART 2W 2848 E   |
| 4-6 9/16 (1386) | <br>UWCART 2W 1654 | <br>UWCART 2W 1854 | <br>UWCART 2W 2054 | <br>UWCART 2W 2454 | <br>UWCART 2W 2654 | <br>UWCART 2W 2854 E |
| 4-8 9/16 (1437) | <br>UWCART 2W 1656 | <br>UWCART 2W 1856 | <br>UWCART 2W 2056 | <br>UWCART 2W 2456 | <br>UWCART 2W 2656 | <br>UWCART 2W 2856 E |
| 5-0 9/16 (1538) | <br>UWCART 2W 1660 | <br>UWCART 2W 1860 | <br>UWCART 2W 2060 | <br>UWCART 2W 2460 | <br>UWCART 2W 2660 | <br>UWCART 2W 2860 E |

### WOOD CASEMENT ROUND TOP

RT21 / RT22 TWO WIDE STANDARD SIZES - OPERATOR AND STATIONARY

| RO (mm)         | 5-1 (1549)  | 5-5 (1651)  | 6-1 (1854)  |
|-----------------|---|---|---|
| 4-0 9/16 (1234) | <br>UWCART 2W 3048 E |   |   |
| 4-6 9/16 (1386) | <br>UWCART 2W 3054 E | <br>UWCART 2W 3254 E |   |
| 4-8 9/16 (1437) | <br>UWCART 2W 3056 E | <br>UWCART 2W 3256 E | <br>UWCART 2W 3656 E |
| 5-0 9/16 (1538) | <br>UWCART 2W 3060 E | <br>UWCART 2W 3260 E | <br>UWCART 2W 3660 E |

Details and Elevations not to scale.

- Marvin exclusive wash mode is not available on Ultimate Casement Round Tops.
- Rough opening height includes <sup>15</sup>/<sub>16</sub>" subsill.

E These windows meet national Egress codes for fire evacuation. Local codes may differ.

Please consult your local Marvin representative for more information.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

### WOOD CASEMENT ROUND TOP

RT21 / RT22 TWO WIDE STANDARD SIZES - OPERATOR AND STATIONARY

| RO (mm)         | 2-9 (838) | 3-1 (940) | 3-5 (1041) | 4-1 (1245) | 4-5 (1346) | 4-9 (1448) |
|-----------------|-----------|-----------|------------|------------|------------|------------|
| 5-4 9/16 (1640) |           |           |            |            |            |            |
| 6-0 9/16 (1843) |           |           |            |            |            |            |
| 6-6 9/16 (1996) |           |           |            |            |            |            |
| 7-0 9/16 (2148) |           |           |            |            |            |            |
| 7-8 9/16 (2351) |           |           |            |            |            |            |
| 8-0 9/16 (2453) |           |           |            |            |            |            |

### WOOD CASEMENT ROUND TOP

RT21 / RT22 TWO WIDE STANDARD SIZES - OPERATOR AND STATIONARY

| RO (mm)         | 5-1 (1549) | 5-5 (1651) | 6-1 (1854) | 6-9 (2057) |
|-----------------|------------|------------|------------|------------|
| 5-4 9/16 (1640) |            |            |            |            |
| 6-0 9/16 (1843) |            |            |            |            |
| 6-6 9/16 (1996) |            |            |            |            |
| 7-0 9/16 (2148) |            |            |            |            |
| 7-8 9/16 (2351) |            |            |            |            |
| 8-0 9/16 (2453) |            |            |            |            |

Details and Elevations not to scale.

- Marvin exclusive wash mode is not available on Ultimate Casement Round Tops.
- Rough opening height includes 15/16" sub sill.

E These windows meet national Egress codes for fire evacuation. Local codes may differ.































T For safety and/or code requirements, Marvin recommends tempered glass in all units with a frame size height of 71 1/8" or larger and units with basic frame size 25.2 ft² and larger.

Please consult your local Marvin representative for more information.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.




























### WOOD CASEMENT ROUND TOP

RT2 STANDARD SIZES OPERATOR AND STATIONARY

| RO (mm)           | 2 - 1 (635)   | 2 - 3 (686)   | 2 - 5 (737)   | 2 - 7 (787)   | 2 - 9 (838)   | 3 - 1 (940)   | 3 - 5 (1041)  |
|-------------------|---|---|---|---|---|---|---|
| 3 - 8 9/16 (1132) | <br>UWCART2444     |   |   |   |   |   |   |
| 4 - 9/16 (1234)   | <br>UWCART2448     | <br>UWCART2648     |   |   |   |   |   |
| 4 - 6 9/16 (1386) | <br>UWCART2454     | <br>UWCART2654     | <br>UWCART2854     | <br>UWCART3054 E   |   |   |   |
| 4 - 8 9/16 (1437) | <br>UWCART2456     | <br>UWCART2656     | <br>UWCART2856 E   | <br>UWCART3056 E   | <br>UWCART3256 E   |   |   |
| 5 - 9/16 (1538)   | <br>UWCART2460   | <br>UWCART2660 E | <br>UWCART2860 E | <br>UWCART3060 E | <br>UWCART3260 E |   |   |
| 5 - 4 9/16 (1640) | <br>UWCART2464   | <br>UWCART2664 E | <br>UWCART2864 E | <br>UWCART3064 E | <br>UWCART3264 E | <br>UWCART3664 E |   |
| 6 - 9/16 (1843)   | <br>UWCART2472 T | <br>UWCART2672 T | <br>UWCART2872 T | <br>UWCART3072 T | <br>UWCART3272 T | <br>UWCART3672 T | <br>UWCART4072 T |

### WOOD CASEMENT ROUND TOP

RT2 STANDARD SIZES OPERATOR AND STATIONARY

| RO (mm)           | 2 - 1 (635)   | 2 - 3 (686)   | 2 - 5 (737)   | 2 - 7 (787)   | 2 - 9 (838)   | 3 - 1 (940)   | 3 - 5 (1041)   |
|-------------------|---|---|---|---|---|---|--|
| 6 - 6 9/16 (1996) | <br>UWCART2478 T   | <br>UWCART2678 T   | <br>UWCART2878 T   | <br>UWCART3078 T   | <br>UWCART3278 T   | <br>UWCART3678 T   | <br>UWCART4078 T  |
| 7 - 9/16 (2148)   | <br>UWCART2484 T   | <br>UWCART2684 T   | <br>UWCART2884 T   | <br>UWCART3084 T   | <br>UWCART3284 T   | <br>UWCART3684 T   | <br>UWCART4084 T  |
| 7 - 8 9/16 (2351) | <br>UWCART2492 T  | <br>UWCART2692 T  | <br>UWCART2892 T  | <br>UWCART3092 T  | <br>UWCART3292 T  | <br>UWCART3692 T  | <br>UWCART4092 T |
| 8 - 9/16 (2453)   | <br>UWCART2496 T | <br>UWCART2696 T | <br>UWCART2896 T | <br>UWCART3096 T | <br>UWCART3296 T | <br>UWCART3696 T |  |

Details and Elevations not to scale.

• Rough opening height does not include subsill. If units are not used as transom, add 15/16" to height for subsill.

E These windows meet national Egress codes for fire evacuation. Local codes may differ.

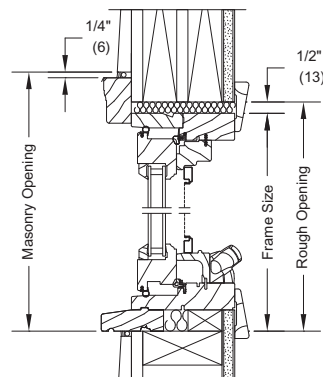
T For safety and/or code requirements, Marvin recommends tempered glass in all units with a frame size height of 71 1/8" or larger and units with basic frame size 25.2 ft² and larger.

Please consult your local Marvin representative for more information.

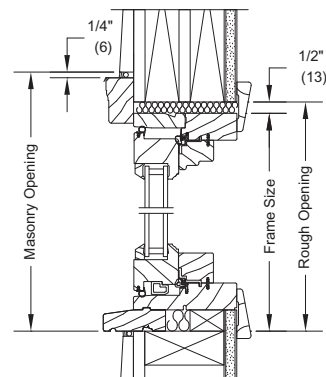
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

# WOOD CASEMENT ROUND TOP

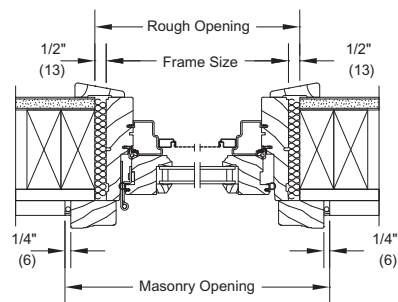
## CONSTRUCTION DETAILS



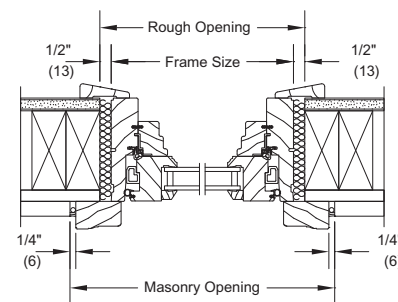
HEAD JAMB AND SILL - OPERATOR



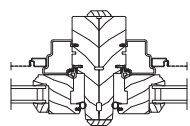
HEAD JAMB AND SILL - STATIONARY



JAMB - OPERATOR



JAMB - STATIONARY



VERTICAL MULLION OPERATOR

# WOOD CASEMENT TRANSOM PICTURE ROUND TOP

## RT6 STANDARD SIZES STATIONARY UNIT AS TRANSOM - IN SASH

| RO (mm)          | 2 - 1 (635)    | 2 - 3 (686)    | 2 - 5 (737)    | 2 - 7 (787)    | 2 - 9 (838)    |
|------------------|----------------|----------------|----------------|----------------|----------------|
| 1 - 6 1/2 (470)  | UWCATRRT2419   | UWCATRRT2619   | UWCATRRT2819   | UWCATRRT3019   | UWCATRRT3219   |
| 2 - 0 1/2 (622)  | UWCATRRT2423   | UWCATRRT2623   | UWCATRRT2823   | UWCATRRT3023   | UWCATRRT3223   |
| 3 - 0 1/2 (927)  | UWCATRRT2435   | UWCATRRT2635   | UWCATRRT2835   | UWCATRRT3035   | UWCATRRT3235   |
| 4 - 0 1/2 (1232) | UWCATRRT2447   | UWCATRRT2647   | UWCATRRT2847   | UWCATRRT3047   | UWCATRRT3247   |
| 5 - 0 1/2 (1537) | UWCATRRT2459   | UWCATRRT2659   | UWCATRRT2859   | UWCATRRT3059   | UWCATRRT3259   |
| 6 - 0 1/2 (1842) | UWCATRRT2471 T | UWCATRRT2671 T | UWCATRRT2871 T | UWCATRRT3071 T | UWCATRRT3271 T |

### WOOD CASEMENT TRANSOM PICTURE ROUND TOP

RT6 STANDARD SIZES STATIONARY UNIT AS TRANSOM - IN SASH

| RO (mm)          | 3 - 1 (939)    | 3 - 5 (1041)   | 4 - 1 (1245)   | 4 - 9 (1448)   | 6 - 1 (1854)   |
|------------------|----------------|----------------|----------------|----------------|----------------|
| 1 - 6 1/2 (470)  | UWCATRRT3619   | UWCATRRT4019   | UWCATRRT4819   | UWCATRRT5619   | UWCATRRT7219   |
| 2 - 0 1/2 (622)  | UWCATRRT3623   | UWCATRRT4023   | UWCATRRT4823   | UWCATRRT5623   | UWCATRRT7223   |
| 3 - 0 1/2 (927)  | UWCATRRT3635   | UWCATRRT4035   | UWCATRRT4835   | UWCATRRT5635   | UWCATRRT7235   |
| 4 - 0 1/2 (1232) | UWCATRRT3647   | UWCATRRT4047   | UWCATRRT4847   | UWCATRRT5647   | UWCATRRT7247   |
| 5 - 0 1/2 (1537) | UWCATRRT3659   | UWCATRRT4059   | UWCATRRT4859   | UWCATRRT5659   | UWCATRRT7259   |
| 6 - 0 1/2 (1842) | UWCATRRT3671 T | UWCATRRT4071 T | UWCATRRT4871 T | UWCATRRT5671 T | UWCATRRT7271 T |

### WOOD CASEMENT PICTURE ROUND TOP

RT1 STANDARD SIZES - IN SASH

| RO (mm)           | 2 - 1 (635)  | 2 - 5 (737)   | 2 - 9 (838)  | 2 - 9 (838)  |
|-------------------|--------------|---------------|--------------|--------------|
| 1 - 1 7/16 (641)  | UWCART2412   | UWCART2814    | UWCART3216   | UWCART3218   |
| 1 - 3 7/16 (392)  |              |               |              |              |
| 1 - 5 7/16 (443)  |              |               |              |              |
| 1 - 7 7/16 (494)  |              |               |              |              |
| RO (mm)           | 3 - 5 (1041) | 4 - 1 (1245)  | 4 - 9 (1448) | 5 - 1 (1549) |
| 1 - 9 7/16 (645)  | UWCART4020   | UWCART4824    | UWCART5628   | UWCART6030   |
| 2 - 1 7/16 (646)  |              |               |              |              |
| 2 - 5 7/16 (748)  |              |               |              |              |
| 2 - 7 7/16 (799)  |              |               |              |              |
| RO (mm)           | 5 - 5 (1651) | 6 - 1 (1854)  | 7 - 1 (2159) | 8 - 1 (2464) |
| 2 - 9 7/16 (849)  | UWCART6432   | UWCART7236    | UWCART8442   | UWCART9648   |
| 3 - 1 7/16 (951)  |              |               |              |              |
| 3 - 7 7/16 (1103) |              |               |              |              |
| 4 - 1 7/16 (1256) |              |               |              |              |
| RO (mm)           | 9 - 1 (2769) | 10 - 1 (3073) |              |              |
| 4 - 7 7/16 (1408) | UWCART10854  | UWCART12060   |              |              |
| 5 - 1 7/16 (1561) |              |               |              |              |

RT29 STANDARD SIZES - IN SASH

| RO (mm)         | 3 - 5 (1041) | 4 - 1 (1245) | 4 - 9 (1448) | 6 - 1 (1854) |
|-----------------|--------------|--------------|--------------|--------------|
| 1 - 6 7/8 (479) | UWCART4017   | UWCART4817   | UWCART5617   | UWCART7217   |

Details and Elevations not to scale.

- Rough opening height does not include subsill. If units are not used as transom, add 15/16" to height for subsill.
- Units with basic frame size 25.2 ft² and larger may require tempered glass.

T For safety and/or code requirements, Marvin recommends tempered glass in all units with a frame size height of 71 1/8" or larger and units with basic frame size 25.2 ft².

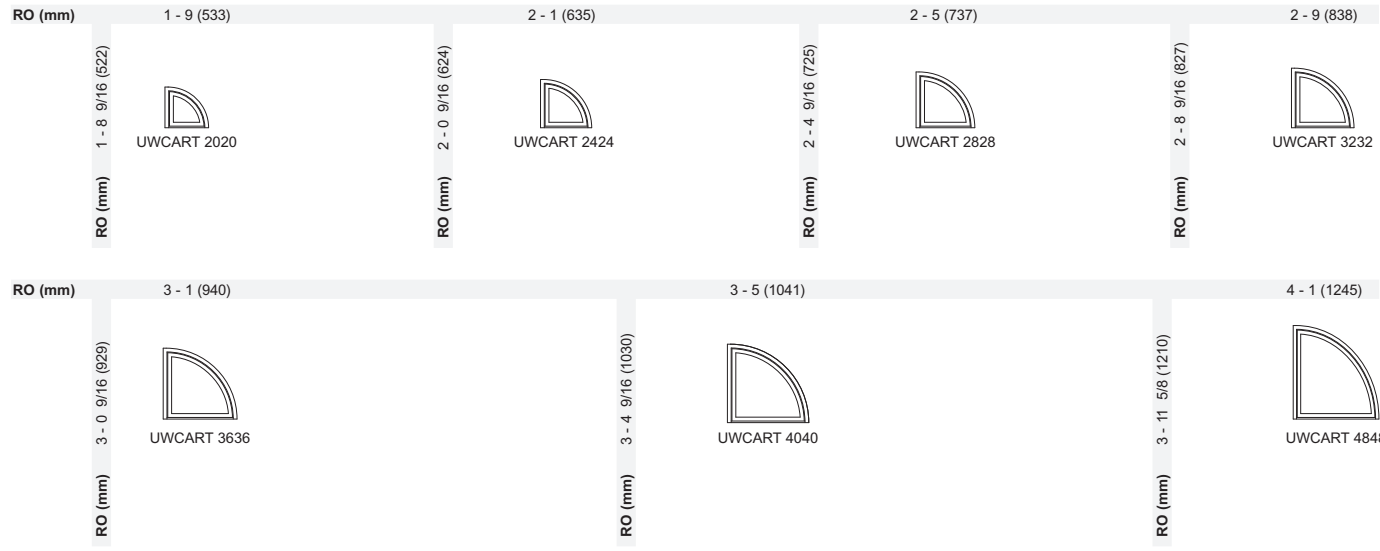
Please consult your local Marvin representative for more information.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

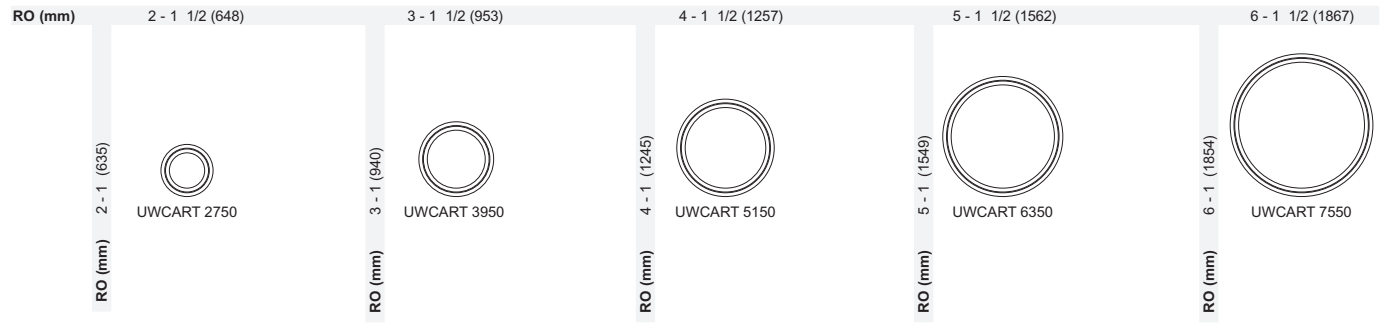
Ultimate Wood Casement Picture Round Top: UWCART

### WOOD CASEMENT PICTURE ROUND TOP

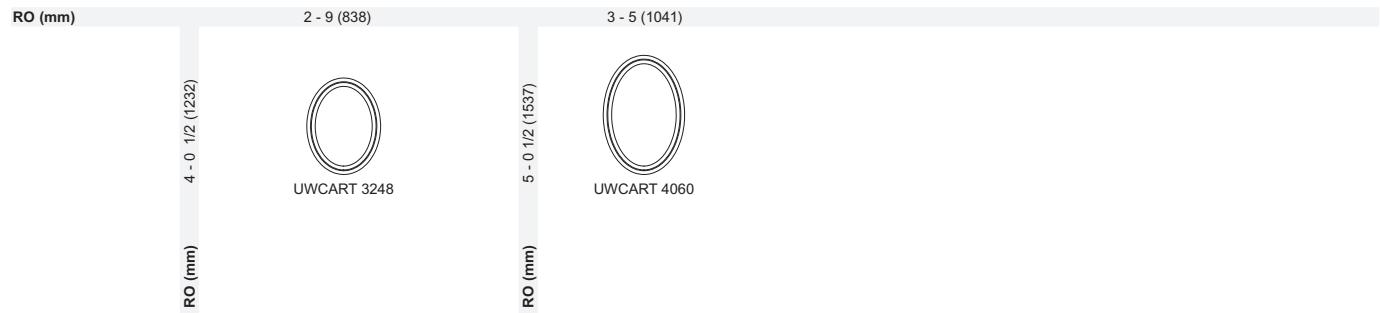
QUARTER CIRCLE  
RT15 AND RT16 STANDARD SIZES (RT16 SHOWN) - IN SASH



FULL CIRCLE  
RT27 STANDARD SIZES - IN SASH

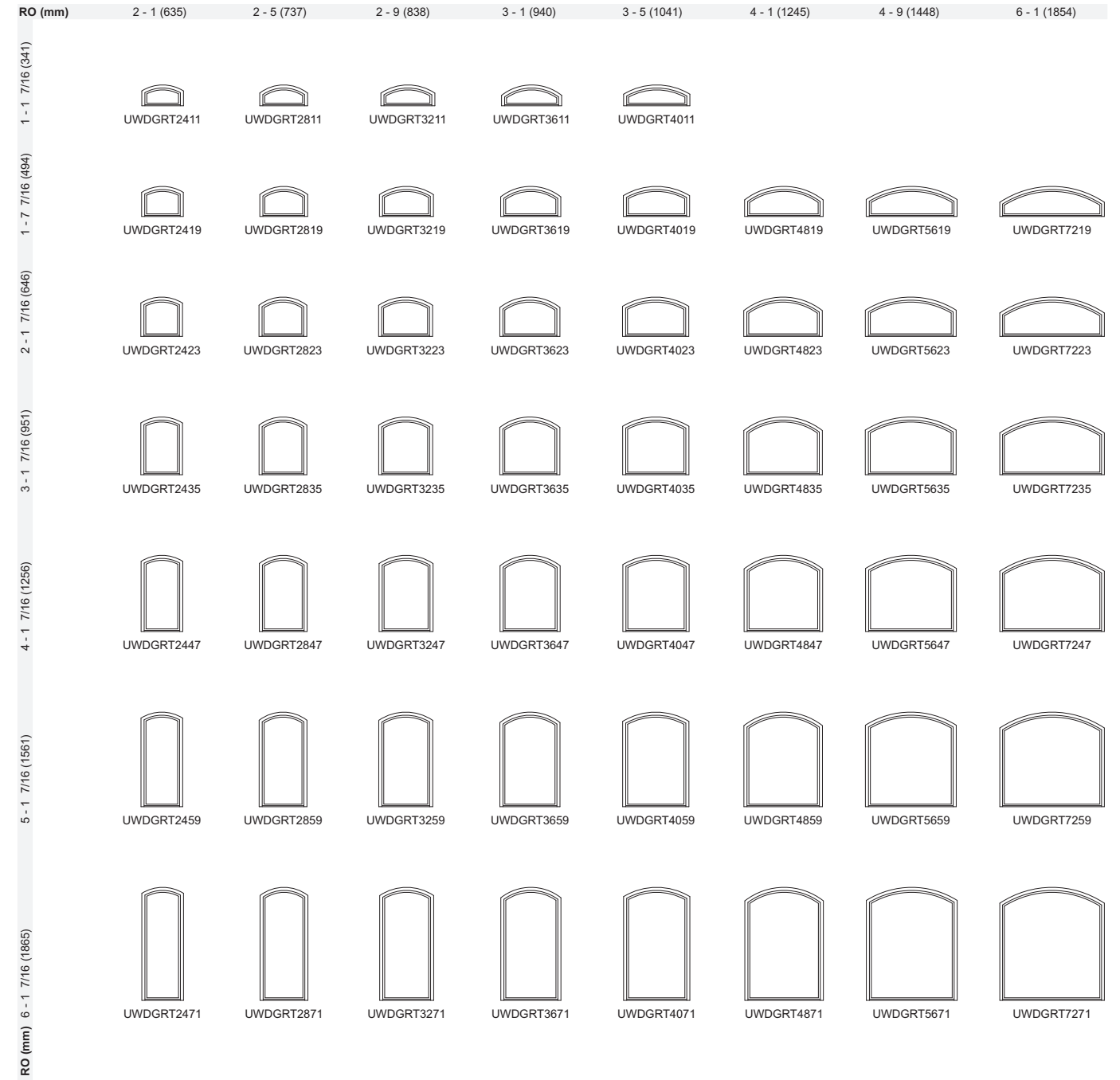


ELLIPSE  
RT28 STANDARD SIZES - IN SASH



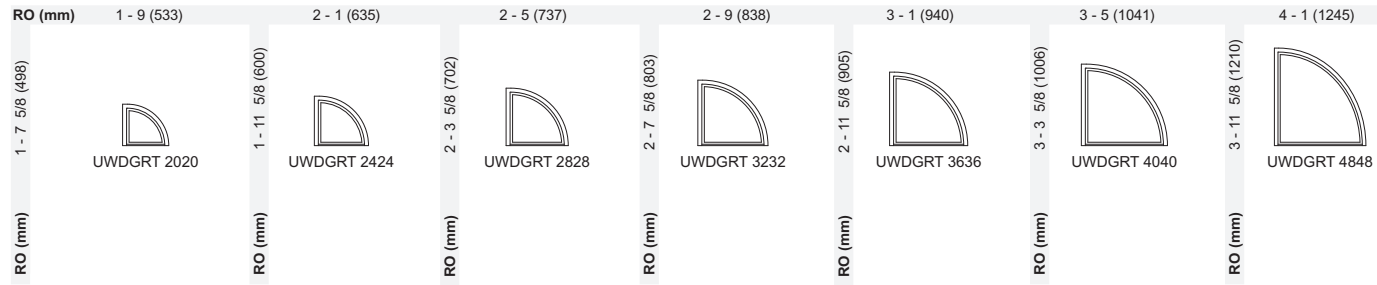
### WOOD DIRECT GLAZE ROUND TOP – Casement

RT6 EYEBROW ABOVE SPRINGLINE STANDARD SIZES - DIRECT GLAZE

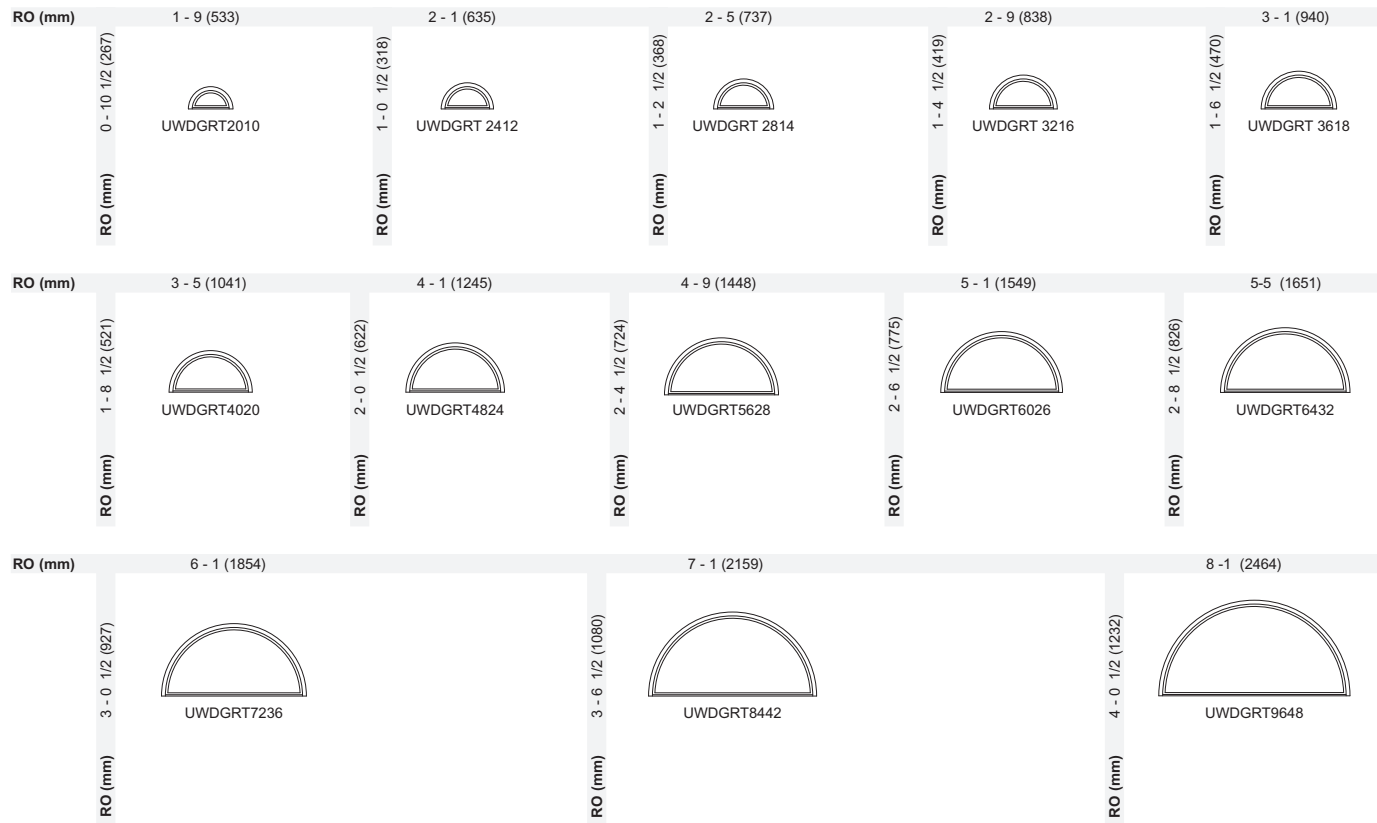


### WOOD DIRECT GLAZE ROUND TOP – Casement

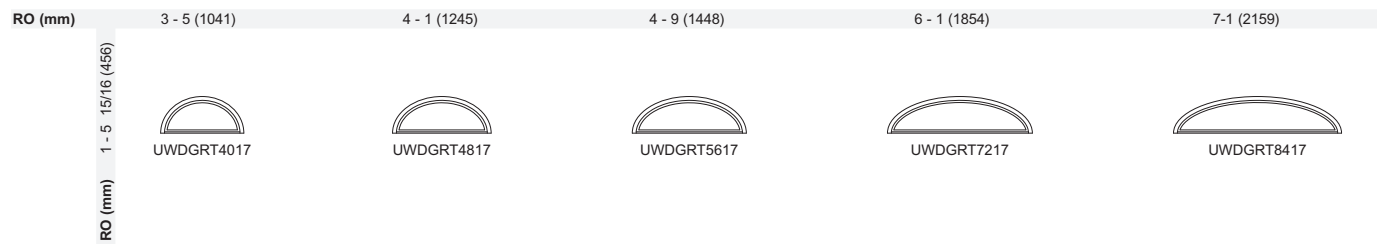
RT15 AND RT16 STANDARD SIZES (RT16 SHOWN) - DIRECT GLAZE



### RT1 TRUE HALF CIRCLE STANDARD SIZES - DIRECT GLAZE



### RT29 STANDARD SIZES - DIRECT GLAZE



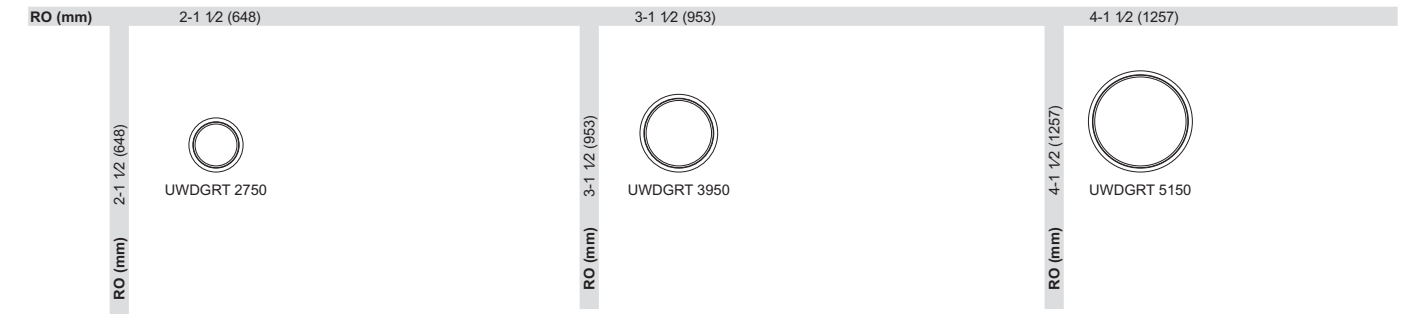
Details and Elevations not to scale.

Please consult your local Marvin representative for masonry openings that include casings.

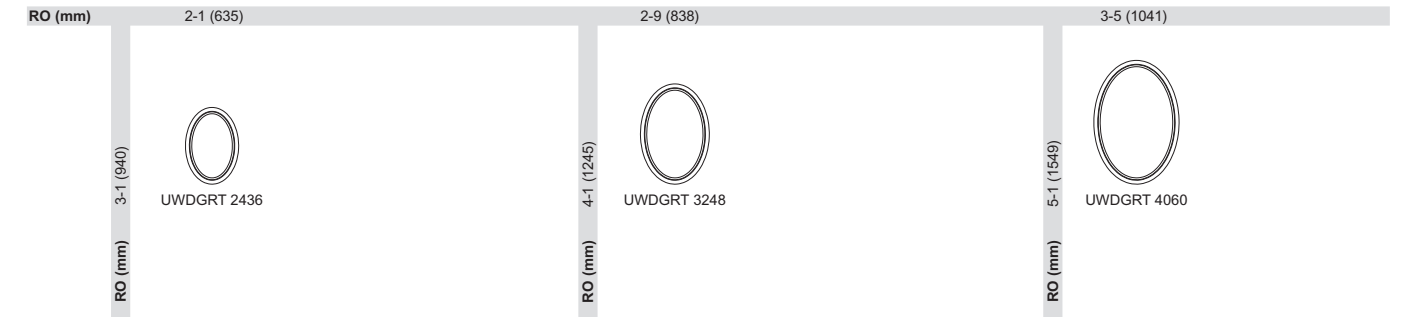
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

### WOOD DIRECT GLAZE ROUND TOP – Casement

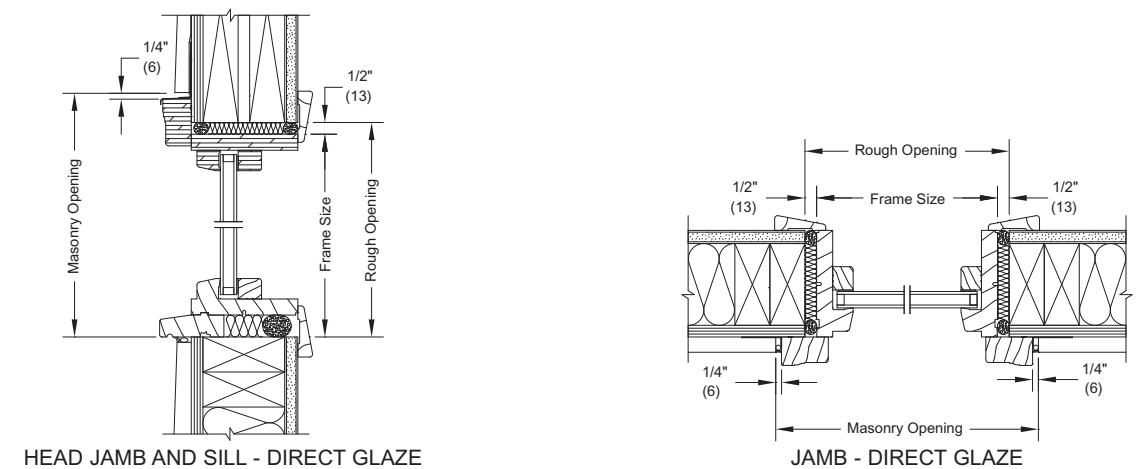
RT27 FULL CIRCLE STANDARD SIZES - DIRECT GLAZE



### RT28 ELLIPSE STANDARD SIZES - DIRECT GLAZE



### CONSTRUCTION DETAILS



HEAD JAMB AND SILL - DIRECT GLAZE

JAMB - DIRECT GLAZE

### CASEMENT ROUND TOP

RT6 EYEBROW ABOVE SPRINGLINE STANDARD SIZES - OPERATOR AND STATIONARY

| RO (mm)           | 1 - 5 (432) | 1 - 7 (483) | 1 - 9 (533) | 2 - 1 (635) | 2 - 3 (686) | 2 - 5 (737) | 2 - 7 (787) | 2 - 9 (838) | 3 - 1 (940) |
|-------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 2 - 7 5/8 (803)   | UCART1632   | UCART1832   | UCART2032   |             |             |             |             |             |             |
| 2 - 11 5/8 (905)  | UCART1636   | UCART1836   | UCART2036   | UCART2436   |             |             |             |             |             |
| 3 - 3 5/8 (1006)  | UCART1640   | UCART1840   | UCART2040   | UCART2440   | UCART2640   | UCART2840   |             |             |             |
| 3 - 7 5/8 (1108)  | UCART1644   | UCART1844   | UCART2044   | UCART2444   | UCART2644   | UCART2844 E | UCART3044 E |             |             |
| 3 - 11 5/8 (1210) | UCART1648   | UCART1848   | UCART2048   | UCART2448   | UCART2648 E | UCART2848 E | UCART3048 E | UCART3248 E |             |
| 4 - 5 5/8 (1362)  | UCART1654   | UCART1854   | UCART2054   | UCART2454   | UCART2654 E | UCART2854 E | UCART3054 E | UCART3254 E | UCART3654 E |

### CASEMENT ROUND TOP

RT6 EYEBROW ABOVE SPRINGLINE STANDARD SIZES - OPERATOR AND STATIONARY

| RO (mm)           | 1 - 5 (432) | 1 - 7 (483) | 1 - 9 (533) | 2 - 1 (635) | 2 - 3 (686) | 2 - 5 (737) | 2 - 7 (787) | 2 - 9 (838) | 3 - 1 (940) | 3 - 5 (1041) |
|-------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| 4 - 7 5/8 (1413)  | UCART1656   | UCART1856   | UCART2056   | UCART2456   | UCART2656 E | UCART2856 E | UCART3056 E | UCART3256 E | UCART3656 E |              |
| 4 - 11 5/8 (1514) | UCART1660   | UCART1860   | UCART2060   | UCART2460   | UCART2660 E | UCART2860 E | UCART3060 E | UCART3260 E | UCART3660 E | UCART4060 E  |
| 5 - 3 5/8 (1616)  | UCART1664   | UCART1864   | UCART2064   | UCART2464   | UCART2664 E | UCART2864 E | UCART3064 E | UCART3264 E | UCART3664 E | UCART4064 E  |
| 5 - 11 5/8 (1819) | UCART1672 T | UCART1872 T | UCART2072 T | UCART2472 T | UCART2672 T | UCART2872 T | UCART3072 T | UCART3272 T | UCART3672 T | UCART4072 T  |
| 6 - 5 5/8 (1972)  | UCART1678 T | UCART1878 T | UCART2078 T | UCART2478 T | UCART2678 T | UCART2878 T | UCART3078 T | UCART3278 T | UCART3678 T | UCART4078 T  |

Ultimate Casement Round Top: UCART

Details and Elevations not to scale.  
 • Marvin exclusive wash mode is not available on Ultimate Casement Round Tops.  
 E These windows meet national Egress codes for fire evacuation. Local codes may differ.  
 T For safety and/or code requirements, Marvin recommends tempered glass in all units with a frame size height of 71 1/8" or larger and units with basic frame size 25.2 ft².  
 Please consult your local Marvin representative for more information.  
 For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

### CASEMENT ROUND TOP

RT6 EYEBROW ABOVE SPRINGLINE STANDARD SIZES - OPERATOR AND STATIONARY

| RO (mm)           | 1 - 5 (432) | 1 - 7 (483) | 1 - 9 (533) | 2 - 1 (635) | 2 - 3 (686) | 2 - 5 (737) | 2 - 7 (787) | 2 - 9 (838) | 3 - 1 (940) | 3 - 5 (1041) |
|-------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| 6 - 11 5/8 (2124) |             |             |             |             |             |             |             |             |             |              |
|                   | UCART1684 T | UCART1884 T | UCART2084 T | UCART2484 T | UCART2684 T | UCART2884 T | UCART3084 T | UCART3284 T | UCART3684 T | UCART4084 T  |
| 7 - 7 5/8 (2327)  |             |             |             |             |             |             |             |             |             |              |
|                   | UCART1692 T | UCART1892 T | UCART2092 T | UCART2492 T | UCART2692 T | UCART2892 T | UCART3092 T | UCART3292 T | UCART3692 T | UCART4092 T  |
| 7 - 11 5/8 (2429) |             |             |             |             |             |             |             |             |             |              |
|                   | UCART1696 T | UCART1896 T | UCART2096 T | UCART2496 T | UCART2696 T | UCART2896 T | UCART3096 T | UCART3296 T | UCART3696 T |              |

### CASEMENT ROUND TOP

RT21 / RT22 TWO WIDE STANDARD SIZES - OPERATOR AND STATIONARY

| RO (mm)         | 2-9 (838) | 3-1 (940) | 3-5 (1041) | 4-1 (1245) | 4-5 (1346) | 4-9 (1448)  |
|-----------------|-----------|-----------|------------|------------|------------|-------------|
| 2-7 5/8 (803)   |           |           |            |            |            |             |
|                 | UCART1632 |           |            |            |            |             |
| 2-11 5/8 (905)  |           |           |            |            |            |             |
|                 | UCART1636 | UCART1836 | UCART2036  |            |            |             |
| 3-3 5/8 (1006)  |           |           |            |            |            |             |
|                 | UCART1640 | UCART1840 | UCART2040  | UCART2440  |            |             |
| 3-7 5/8 (1108)  |           |           |            |            |            |             |
|                 | UCART1644 | UCART1844 | UCART2044  | UCART2444  |            | UCART2844   |
| 3-11 5/8 (1210) |           |           |            |            |            |             |
|                 | UCART1648 | UCART1848 | UCART2048  | UCART2448  | UCART2648  | UCART2848 E |
| 4-5 5/8 (1362)  |           |           |            |            |            |             |
|                 | UCART1654 | UCART1854 | UCART2054  | UCART2454  | UCART2654  | UCART2854 E |
| 4-7 5/8 (1413)  |           |           |            |            |            |             |
|                 | UCART1656 | UCART1856 | UCART2056  | UCART2456  | UCART2656  | UCART2856 E |
| 4-11 5/8 (1514) |           |           |            |            |            |             |
|                 | UCART1660 | UCART1860 | UCART2060  | UCART2460  | UCART2660  | UCART2860 E |

Details and Elevations not to scale.

- Marvin exclusive wash mode is not available on Ultimate Casement Round Tops.
- Rough opening height includes 15/16" subsill.

T For safety and/or code requirements, Marvin recommends tempered glass in all units with a frame size height of 71 1/8" or larger and units with basic frame size 25.2 ft².

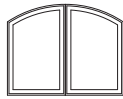




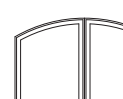



E These windows meet national Egress codes for fire evacuation. Local codes may differ.

Please consult your local Marvin representative for more information.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

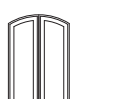
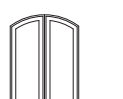
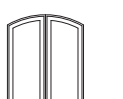
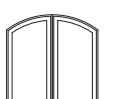
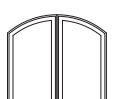
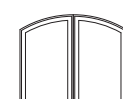
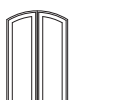
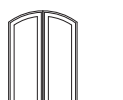
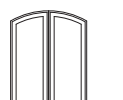
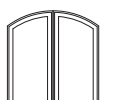
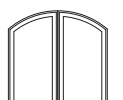
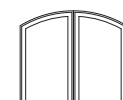
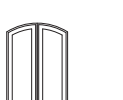

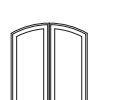
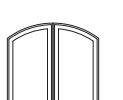
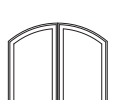
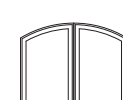











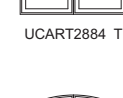






### CASEMENT ROUND TOP

RT21 / RT22 TWO WIDE STANDARD SIZES - OPERATOR AND STATIONARY

| RO (mm)         | 5-1 (1549)   | 5-5 (1651)   | 6-1 (1854)  |
|-----------------|--|--|---|
| 3-11 5/8 (1210) | <br>UCART3048 E |  |   |
| 4-5 5/8 (1362)  | <br>UCART3054 E | <br>UCART3254 E |   |
| 4-7 5/8 (1413)  | <br>UCART3056 E | <br>UCART3256 E | <br>UCART3656 E |
| 4-11 5/8 (1514) | <br>UCART3060 E | <br>UCART3260 E | <br>UCART3660 E |

### CASEMENT ROUND TOP

RT21 / RT22 TWO WIDE STANDARD SIZES - OPERATOR AND STATIONARY

| RO (mm)         | 2-9 (838)  | 3-1 (940)  | 3-5 (1041)   | 4-1 (1245)   | 4-5 (1346)   | 4-9 (1448)   |
|-----------------|--|--|--|--|--|--|
| 5-3 5/8 (1616)  | <br>UCART1664     | <br>UCART1864     | <br>UCART2064     | <br>UCART2464     | <br>UCART2664     | <br>UCART2864 E   |
| 5-11 5/8 (1819) | <br>UCART1672 T   | <br>UCART1872 T   | <br>UCART2072 T   | <br>UCART2472 T   | <br>UCART2672 T   | <br>UCART2872 T   |
| 6-5 5/8 (1972)  | <br>UCART1678 T   | <br>UCART1878 T   | <br>UCART2078 T   | <br>UCART2478 T   | <br>UCART2678 T   | <br>UCART2878 T   |
| 6-11 5/8 (2124) | <br>UCART1684 T   | <br>UCART1884 T   | <br>UCART2084 T   | <br>UCART2484 T   | <br>UCART2684 T   | <br>UCART2884 T   |
| 7-7 5/8 (2327)  | <br>UCART1692 T | <br>UCART1892 T | <br>UCART2092 T | <br>UCART2492 T | <br>UCART2692 T | <br>UCART2892 T |
| 7-11 5/8 (2429) | <br>UCART1696 T | <br>UCART1896 T | <br>UCART2096 T | <br>UCART2496 T | <br>UCART2696 T | <br>UCART2896 T |

Details and Elevations not to scale.

- Marvin exclusive wash mode is not available on Ultimate Casement Round Tops.
- Rough opening height includes 15/16" subsill.

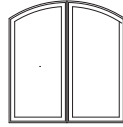
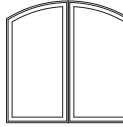
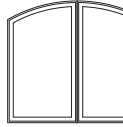
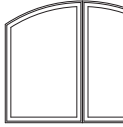
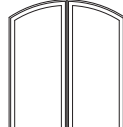
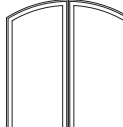
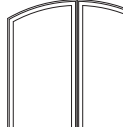
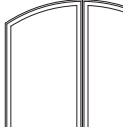
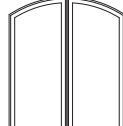
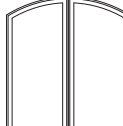
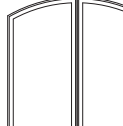
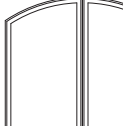
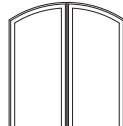
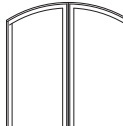
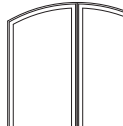
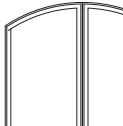
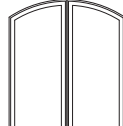
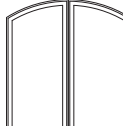
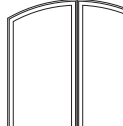
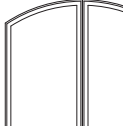
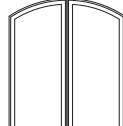
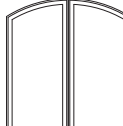
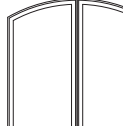
E These meet national Egress codes for fire evacuation. Local codes may differ.

T For safety and/or code requirements, Marvin recommends tempered glass in all units with a frame size height of 71 1/8" or larger and units with basic frame size 25.2 ft². Please consult your local Marvin representative for more information.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.































### CASEMENT ROUND TOP

RT21 / RT22 TWO WIDE STANDARD SIZES - OPERATOR AND STATIONARY

| RO (mm)         | 5-1 (1549)   | 5-5 (1651)   | 6-1 (1854)   | 6-9 (2057)   |
|-----------------|--|--|--|--|
| 5-3 5/8 (1616)  | <br>UCART3064 E   | <br>UCART3264 E   | <br>UCART3664 E   | <br>UCART4064 E   |
| 5-11 5/8 (1819) | <br>UCART3072 T   | <br>UCART3272 T   | <br>UCART3672 T   | <br>UCART4072 T   |
| 6-5 5/8 (1972)  | <br>UCART3078 T   | <br>UCART3278 T   | <br>UCART3678 T   | <br>UCART4078 T   |
| 6-11 5/8 (2124) | <br>UCART3084 T   | <br>UCART3284 T   | <br>UCART3684 T   | <br>UCART4084 T   |
| 7-7 5/8 (2327)  | <br>UCART3092 T | <br>UCART3292 T | <br>UCART3692 T | <br>UCART4092 T |
| 7-11 5/8 (2429) | <br>UCART3096 T | <br>UCART3296 T | <br>UCART3696 T |  |

### CASEMENT ROUND TOP

RT2 STANDARD SIZES OPERATOR AND STATIONARY

| RO (mm)           | 2 - 1 (635)  | 2 - 3 (686)  | 2 - 5 (737)  | 2 - 7 (787)  | 2 - 9 (838)  | 3 - 1 (940)  | 3 - 5 (1041)   |
|-------------------|--|--|--|--|--|--|--|
| 3 - 7 5/8 (1108)  | <br>UCART2444     |  |  |  |  |  |  |
| 3 - 11 5/8 (1210) | <br>UCART2448     | <br>UCART2648     |  |  |  |  |  |
| 4 - 5 5/8 (1362)  | <br>UCART2454     | <br>UCART2654     | <br>UCART2854     | <br>UCART3054     |  |  |  |
| 4 - 7 5/8 (1413)  | <br>UCART2456     | <br>UCART2656     | <br>UCART2856     | <br>UCART3056 E   | <br>UCART3256 E   |  |  |
| 4 - 11 5/8 (1514) | <br>UCART2460    | <br>UCART2660 E  | <br>UCART2860 E  | <br>UCART3060 E  | <br>UCART3260 E  |  |  |
| 5 - 3 5/8 (1616)  | <br>UCART2464 E | <br>UCART2664 E | <br>UCART2864 E | <br>UCART3064 E | <br>UCART3264 E | <br>UCART3664 E |  |
| 5 - 11 5/8 (1819) | <br>UCART2472 T | <br>UCART2672 T | <br>UCART2872 T | <br>UCART3072 T | <br>UCART3272 T | <br>UCART3672 T | <br>UCART4072 T |

Details and Elevations not to scale.

- Marvin exclusive wash mode is not available on Ultimate Casement Round Tops.

E These windows meet national Egress codes for fire evacuation. Local codes may differ.

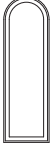

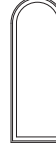


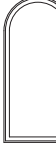

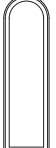

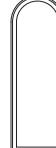


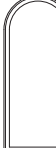

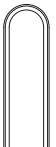

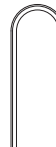


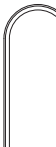

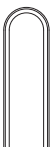

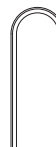


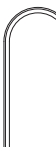
T For safety and/or code requirements, Marvin recommends tempered glass in all units with a frame size height of 71 1/8" or larger and units with basic frame size 25.2 ft².

Please consult your local Marvin representative for more information.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

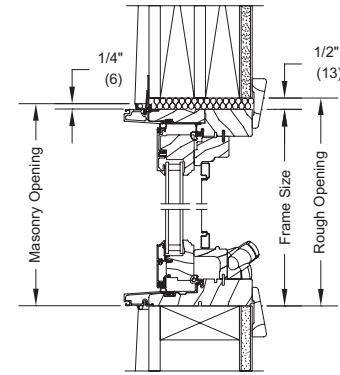
# CASEMENT ROUND TOP

## RT2 STANDARD SIZES OPERATOR AND STATIONARY

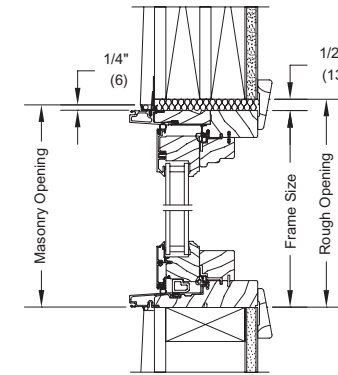
| RO (mm)           | 2 - 1 (635)  | 2 - 3 (686)  | 2 - 5 (737)  | 2 - 7 (787)  | 2 - 9 (838)  | 3 - 1 (940)  | 3 - 5 (1041)  |
|-------------------|--|--|--|--|--|--|---|
| 6 - 5 5/8 (1972)  | <br>UCART2478 T   | <br>UCART2678 T   | <br>UCART2878 T   | <br>UCART3078 T   | <br>UCART3278 T   | <br>UCART3678 T   | <br>UCART4078 T  |
| 6 - 11 5/8 (2124) | <br>UCART2484 T   | <br>UCART2684 T   | <br>UCART2884 T   | <br>UCART3084 T   | <br>UCART3284 T   | <br>UCART3684 T   | <br>UCART4084 T  |
| 7 - 7 5/8 (2327)  | <br>UCART2492 T  | <br>UCART2692 T  | <br>UCART2892 T  | <br>UCART3092 T  | <br>UCART3292 T  | <br>UCART3692 T  | <br>UCART4092 T |
| 7 - 11 5/8 (2429) | <br>UCART2496 T | <br>UCART2696 T | <br>UCART2896 T | <br>UCART3096 T | <br>UCART3296 T | <br>UCART3696 T |   |

# CASEMENT ROUND TOP

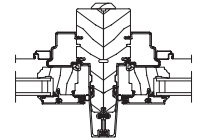
## CONSTRUCTION DETAILS



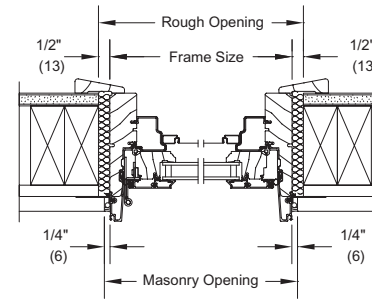
HEAD JAMB AND SILL - OPERATOR



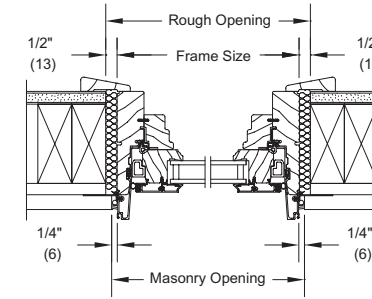
HEAD JAMB AND SILL - STATIONARY



VERTICAL MULLION OPERATOR



JAMB - OPERATOR



JAMB - STATIONARY

Details and Elevations not to scale.































T For safety and/or code requirements, Marvin recommends tempered glass in all units with a frame size height of 71 1/8" or larger and units with basic frame size 25.2 ft<sup>2</sup>.

Please consult your local Marvin representative for more information.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.





























### CASEMENT PICTURE ROUND TOP

RT6 STANDARD SIZES STATIONARY UNITS AS PICTURE - IN SASH

| RO (mm)          | 2 - 1 (635)  | 2 - 3 (685)  | 2 - 5 (736)  | 2 - 7 (787)  | 2 - 9 (838)  |
|------------------|--|--|--|--|--|
| 1 - 6 1/2 (470)  |  UCAPRT2419     |  UCAPRT2619     |  UCAPRT2819     |  UCAPRT3019     |  UCAPRT3219     |
| 2 - 0 1/2 (622)  |  UCAPRT2423     |  UCAPRT2623     |  UCAPRT2823     |  UCAPRT3023     |  UCAPRT3223     |
| 3 - 0 1/2 (927)  |  UCAPRT2435     |  UCAPRT2635     |  UCAPRT2835     |  UCAPRT3035     |  UCAPRT3235     |
| 4 - 0 1/2 (1232) |  UCAPRT2447     |  UCAPRT2647     |  UCAPRT2847     |  UCAPRT3047     |  UCAPRT3247     |
| 5 - 0 1/2 (1537) |  UCAPRT2459   |  UCAPRT2659   |  UCAPRT2859   |  UCAPRT3059   |  UCAPRT3259   |
| 6 - 0 1/2 (1842) |  UCAPRT2471 T |  UCAPRT2671 T |  UCAPRT2871 T |  UCAPRT3071 T |  UCAPRT3271 T |

### CASEMENT PICTURE ROUND TOP

RT6 STANDARD SIZES STATIONARY UNITS AS PICTURE - IN SASH

| RO (mm)          | 3 - 1 (939)  | 3 - 5 (1041)   | 4 - 1 (1245)   | 4 - 9 (1448)   | 6 - 1 (1854)   |
|------------------|--|--|--|--|--|
| 1 - 6 1/2 (470)  |  UCAPRT3619     |  UCAPRT4019     |  UCAPRT4819     |  UCAPRT5619     |  UCAPRT7219     |
| 2 - 0 1/2 (622)  |  UCAPRT3623     |  UCAPRT4023     |  UCAPRT4823     |  UCAPRT5623     |  UCAPRT7223     |
| 3 - 0 1/2 (927)  |  UCAPRT3635     |  UCAPRT4035     |  UCAPRT4835     |  UCAPRT5635     |  UCAPRT7235     |
| 4 - 0 1/2 (1232) |  UCAPRT3647     |  UCAPRT4047     |  UCAPRT4847     |  UCAPRT5647     |  UCAPRT7247     |
| 5 - 0 1/2 (1537) |  UCAPRT3659   |  UCAPRT4059   |  UCAPRT4859   |  UCAPRT5659   |  UCAPRT7259   |
| 6 - 0 1/2 (1842) |  UCAPRT3671 T |  UCAPRT4071 T |  UCAPRT4871 T |  UCAPRT5671 T |  UCAPRT7271 T |

Details and Elevations not to scale.  
 T For safety and/or code requirements, Marvin recommends tempered glass in all units with a frame size height of 71 1/8" or larger and units with basic frame size 25.2 ft².  
 Please consult your local Marvin representative for more information.  
 For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

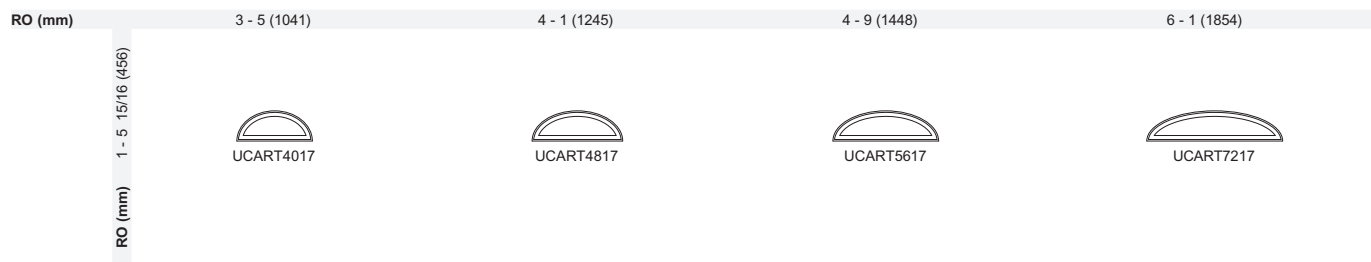
Ultimate Casement Picture Round Top: UCAPRT

### CASEMENT PICTURE ROUND TOP

RT1 STANDARD SIZES - IN SASH



RT29 STANDARD SIZES - IN SASH



Details and Elevations not to scale.  
 • Units with basic frame size 25.2 ft² and larger may require tempered glass.

Please consult your local Marvin representative for more information.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

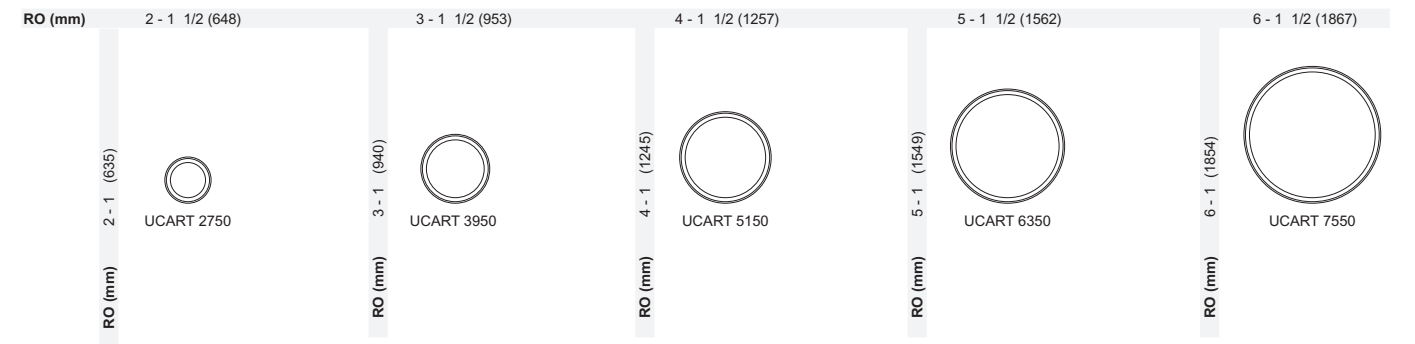
### CASEMENT PICTURE ROUND TOP

QUARTER CIRCLE

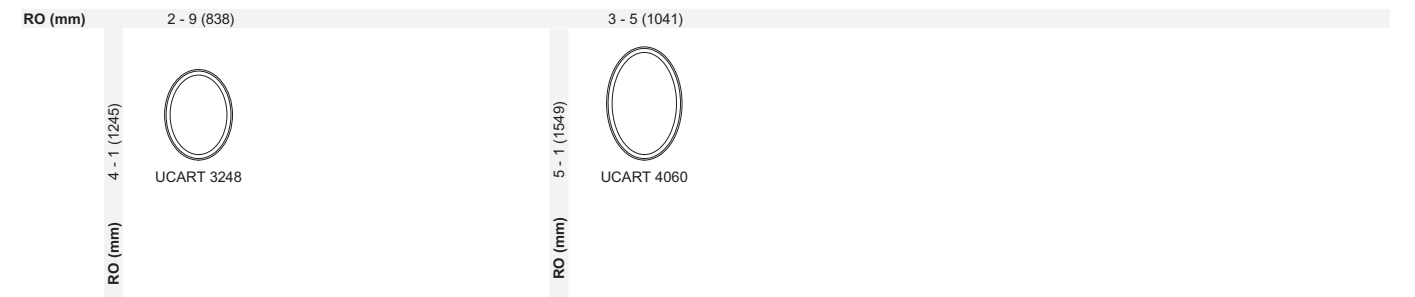
RT15 AND RT16 STANDARD SIZES (RT16 SHOWN) - IN SASH



FULL CIRCLE  
 RT27 STANDARD SIZES - IN SASH



ELLIPSE  
 RT28 STANDARD SIZES - IN SASH



### DIRECT GLAZE ROUND TOP – Casement

RT6 EYEBROW ABOVE SPRINGLINE STANDARD SIZES - DIRECT GLAZE

| RO (mm)        | 2 - 1 (635) | 2 - 5 (737) | 2 - 9 (838) | 3 - 1 (940) | 3 - 5 (1041) | 4 - 1 (1245) | 4 - 9 (1448) | 6 - 1 (1854) |
|----------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|
| 1-0 1/2 (318)  | UDGRT2411   | UDGRT2811   | UDGRT3211   | UDGRT3611   | UDGRT4011    |              |              |              |
| 1-6 1/2 (470)  | UDGRT2419   | UDGRT2819   | UDGRT3219   | UDGRT3619   | UDGRT4019    | UDGRT4819    | UDGRT5619    | UDGRT7219    |
| 2-0 1/2 (622)  | UDGRT2423   | UDGRT2823   | UDGRT3223   | UDGRT3623   | UDGRT4023    | UDGRT4823    | UDGRT5623    | UDGRT7223    |
| 3-0 1/2 (927)  | UDGRT2435   | UDGRT2835   | UDGRT3235   | UDGRT3635   | UDGRT4035    | UDGRT4835    | UDGRT5635    | UDGRT7235    |
| 4-0 1/2 (1232) | UDGRT2447   | UDGRT2847   | UDGRT3247   | UDGRT3647   | UDGRT4047    | UDGRT4847    | UDGRT5647    | UDGRT7247    |
| 5-0 1/2 (1537) | UDGRT2459   | UDGRT2859   | UDGRT3259   | UDGRT3659   | UDGRT4059    | UDGRT4859    | UDGRT5659    | UDGRT7259    |
| 6-0 1/2 (1842) | UDGRT2471   | UDGRT2871   | UDGRT3271   | UDGRT3671   | UDGRT4071    | UDGRT4871    | UDGRT5671    | UDGRT7271    |

### RT15 AND RT16 STANDARD SIZES (RT16 SHOWN)

| RO (mm)           | 1 - 9 (533) | 2 - 1 (635) | 2 - 5 (737) | 2 - 9 (838) | 3 - 1 (940) | 3 - 5 (1041) | 4 - 1 (1245) |
|-------------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|
| 1 - 7 5/8 (498)   | UDGRT 2020  |             |             |             |             |              |              |
| 1 - 11 5/8 (600)  |             | UDGRT 2424  |             |             |             |              |              |
| 2 - 3 5/8 (702)   |             | UDGRT 2828  |             |             |             |              |              |
| 2 - 7 5/8 (803)   |             | UDGRT 3232  |             |             |             |              |              |
| 2 - 11 5/8 (905)  |             | UDGRT 3636  |             |             |             |              |              |
| 3 - 3 5/8 (1006)  |             | UDGRT 4040  |             |             |             |              |              |
| 3 - 11 5/8 (1210) |             | UDGRT Q4848 |             |             |             |              |              |

### DIRECT GLAZE ROUND TOP – Casement

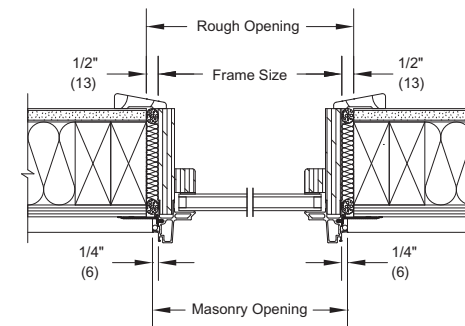
RT1 TRUE HALF CIRCLE STANDARD SIZES - DIRECT GLAZE

| RO (mm)          | 1 - 9 (533) | 2 - 1 (635) | 2 - 5 (737) | 2 - 9 (838) | 3 - 1 (940) |
|------------------|-------------|-------------|-------------|-------------|-------------|
| 0 - 10 1/2 (267) | UDGRT2010   |             |             |             |             |
| 1 - 0 1/2 (318)  |             | UDGRT2412   |             |             |             |
| 1 - 2 1/2 (368)  |             |             | UDGRT2814   |             |             |
| 1 - 4 1/2 (419)  |             |             |             | UDGRT3216   |             |
| 1 - 6 1/2 (470)  |             |             |             |             | UDGRT3618   |
| 3 - 5 (1041)     |             |             |             |             |             |
| 1 - 8 1/2 (621)  | UDGRT4020   |             |             |             |             |
| 2 - 0 1/2 (622)  |             | UDGRT4824   |             |             |             |
| 2 - 4 1/2 (724)  |             |             | UDGRT5628   |             |             |
| 2 - 6 1/2 (775)  |             |             |             | UDGRT6026   |             |
| 2 - 8 1/2 (826)  |             |             |             |             | UDGRT6432   |
| 6 - 1 (1854)     |             |             |             |             |             |
| 3 - 0 1/2 (927)  | UDGRT7236   |             |             |             |             |
| 3 - 6 1/2 (1080) |             |             | UDGRT8442   |             |             |
| 4 - 0 1/2 (1232) |             |             |             |             | UDGRT9648   |

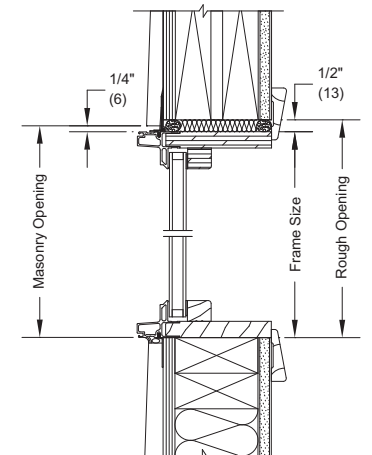
### RT29 STANDARD SIZES - DIRECT GLAZE

| RO (mm)           | 3 - 5 (1041) | 4 - 1 (1245) | 4 - 9 (1448) | 6 - 1 (1854) | 7-1 (2159) |
|-------------------|--------------|--------------|--------------|--------------|------------|
| 1 - 5 15/16 (456) | UDGRT4017    | UDGRT4817    | UDGRT5617    | UDGRT7217    | UDGRT8417  |

### CONSTRUCTION DETAILS



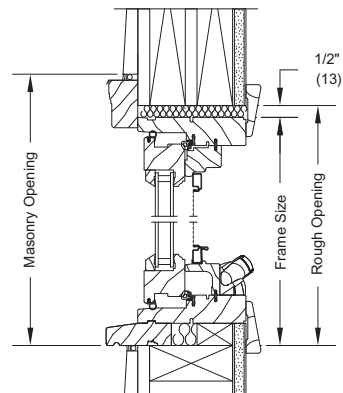
JAMB - DIRECT GLAZE



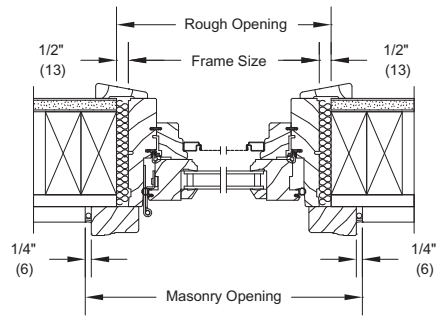
HEAD JAMB AND SILL - DIRECT GLAZE

# CASEMENT POLYGON

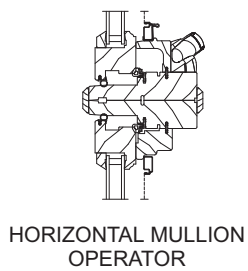
## CONSTRUCTION DETAILS



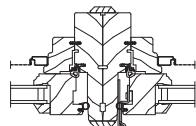
HEAD JAMB AND SILL - OPERATOR



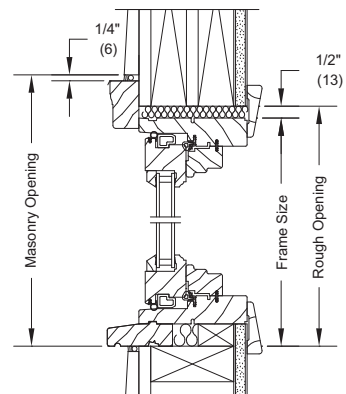
JAMB - OPERATOR



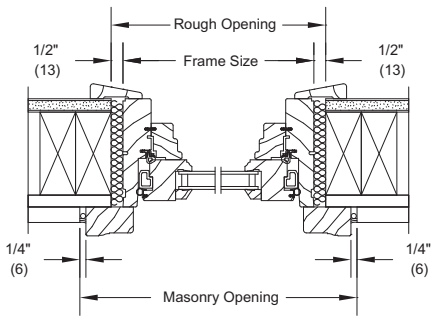
HORIZONTAL MULLION OPERATOR



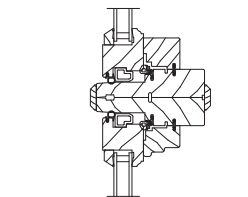
VERTICAL MULLION OPERATOR



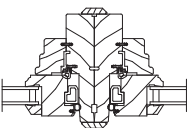
HEAD JAMB AND SILL - STATIONARY



JAMB - STATIONARY



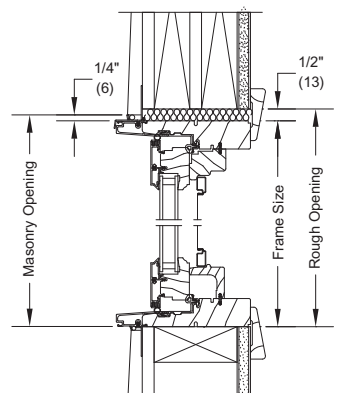
HORIZONTAL MULLION STATIONARY



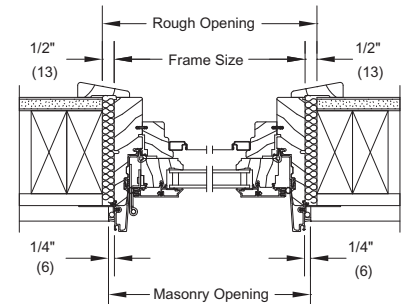
VERTICAL MULLION STATIONARY

# CASEMENT POLYGON

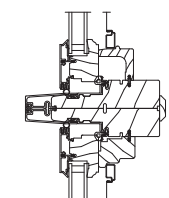
## CONSTRUCTION DETAILS



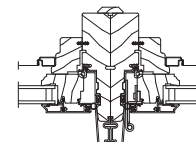
HEAD JAMB AND SILL - OPERATOR



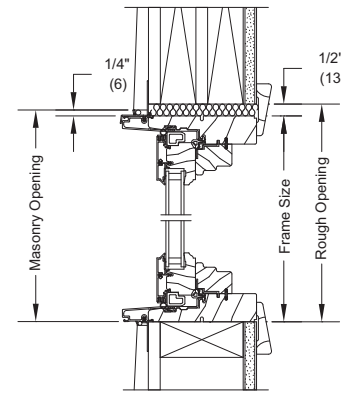
JAMB - OPERATOR



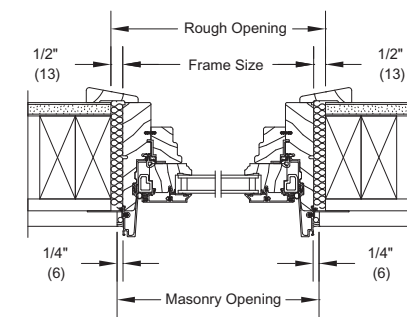
HORIZONTAL MULLION OPERATOR



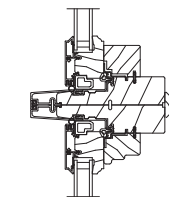
VERTICAL MULLION OPERATOR



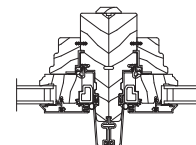
HEAD JAMB AND SILL - STATIONARY



JAMB - STATIONARY



HORIZONTAL MULLION STATIONARY



























































VERTICAL MULLION STATIONARY

Details and Elevations not to scale.  
Please consult your local Marvin representative for more information.  
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.


















































CASEMENT VENTING PICTURE

|                 |                   |                  |                  |                  |                  |                   |                  |                  |
|-----------------|-------------------|------------------|------------------|------------------|------------------|-------------------|------------------|------------------|
| <b>MO (mm)</b>  | 1 - 4 1/2 (419)   | 1 - 6 1/2 (470)  | 1 - 8 1/2 (521)  | 2 - 0 1/2 (622)  | 2 - 2 1/2 (673)  | 2 - 4 1/2 (724)   | 2 - 6 1/2 (775)  | 2 - 8 1/2 (826)  |
| <b>RO (mm)</b>  | 1 - 5 (492)       | 1 - 7 (483)      | 1 - 9 (533)      | 2 - 1 (635)      | 2 - 3 (686)      | 2 - 5 (737)       | 2 - 7 (787)      | 2 - 9 (838)      |
| <b>FS (mm)</b>  | 1 - 4 (406)       | 1 - 6 (457)      | 1 - 8 (508)      | 2 - 0 (610)      | 2 - 2 (660)      | 2 - 4 (711)       | 2 - 6 (762)      | 2 - 8 (813)      |
| <b>DLO (mm)</b> | 0 - 10 3/16 (259) | 1 - 0 3/16 (310) | 1 - 2 3/16 (360) | 1 - 6 3/16 (462) | 1 - 8 3/16 (513) | 1 - 10 3/16 (564) | 2 - 0 3/16 (614) | 2 - 2 3/16 (665) |

|   |  |  |  |  |  |   |  |  |
|---|--|--|--|--|--|---|--|--|
| 2 - 11 3/8 (898)<br>2 - 11 5/8 (904)<br>2 - 11 1/8 (892)<br>2 - 5 21/64 (745)     | <br>UCAVP1636   | <br>UCAVP1836   | <br>UCAVP2036   | <br>UCAVP2436   | <br>UCAVP2636   | <br>UCAVP2836   | <br>UCAVP3036   | <br>UCAVP3236   |
| 3 - 3 3/8 (1000)<br>3 - 3 5/8 (1006)<br>3 - 3 1/8 (993)<br>2 - 9 21/64 (847)      | <br>UCAVP1640   | <br>UCAVP1840   | <br>UCAVP2040   | <br>UCAVP2440   | <br>UCAVP2640   | <br>UCAVP2840   | <br>UCAVP3040   | <br>UCAVP3240   |
| 3 - 7 3/8 (1101)<br>3 - 7 5/8 (1108)<br>3 - 7 1/8 (1095)<br>3 - 1 21/64 (948)     | <br>UCAVP1644   | <br>UCAVP1844   | <br>UCAVP2044   | <br>UCAVP2444   | <br>UCAVP2644   | <br>UCAVP2844   | <br>UCAVP3044   | <br>UCAVP3244   |
| 3 - 11 3/8 (1203)<br>3 - 11 5/8 (1209)<br>3 - 11 1/8 (1196)<br>3 - 5 21/64 (1050) | <br>UCAVP1648   | <br>UCAVP1848   | <br>UCAVP2048   | <br>UCAVP2448   | <br>UCAVP2648   | <br>UCAVP2848   | <br>UCAVP3048   | <br>UCAVP3248   |
| 4 - 5 3/8 (1355)<br>4 - 5 5/8 (1362)<br>4 - 5 1/8 (1349)<br>3 - 11 21/64 (1202)   | <br>UCAVP1654 | <br>UCAVP1854 | <br>UCAVP2054 | <br>UCAVP2454 | <br>UCAVP2654 | <br>UCAVP2854 | <br>UCAVP3054 | <br>UCAVP3254 |
| 4 - 7 3/8 (1406)<br>4 - 7 5/8 (1412)<br>4 - 7 1/8 (1400)<br>4 - 1 21/64 (1253)    | <br>UCAVP1656 | <br>UCAVP1856 | <br>UCAVP2056 | <br>UCAVP2456 | <br>UCAVP2656 | <br>UCAVP2856 | <br>UCAVP3056 | <br>UCAVP3256 |
| 4 - 11 3/8 (1508)<br>4 - 11 5/8 (1514)<br>4 - 11 1/8 (1501)<br>4 - 5 21/64 (1355) | <br>UCAVP1660 | <br>UCAVP1860 | <br>UCAVP2060 | <br>UCAVP2460 | <br>UCAVP2660 | <br>UCAVP2860 | <br>UCAVP3060 | <br>UCAVP3260 |

CASEMENT VENTING PICTURE

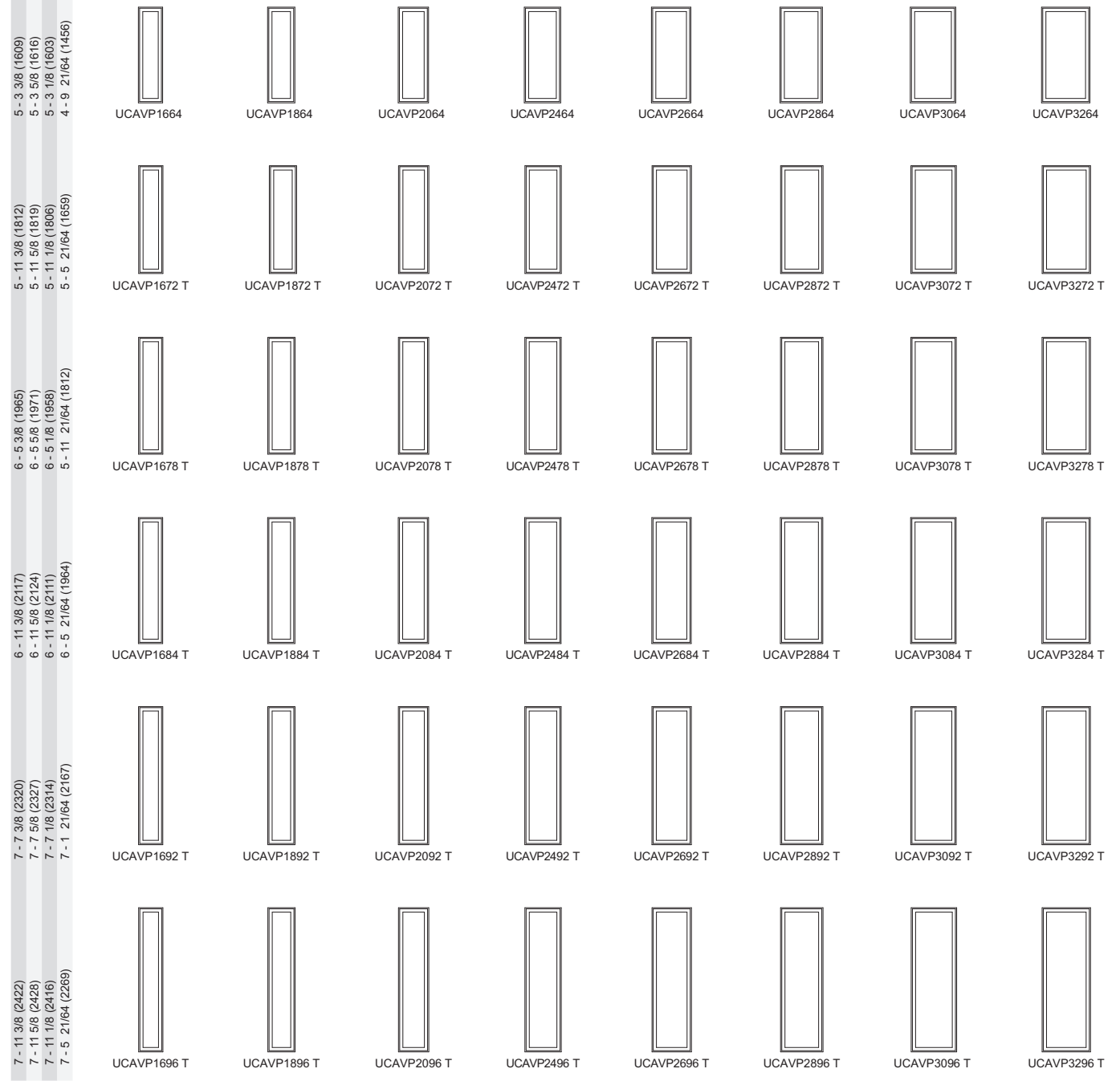
|                 |                  |                   |                   |                   |                   |                    |                   |
|-----------------|------------------|-------------------|-------------------|-------------------|-------------------|--------------------|-------------------|
| <b>MO (mm)</b>  | 3 - 0 1/2 (927)  | 3 - 4 1/2 (1029)  | 4 - 0 1/2 (1232)  | 4 - 8 1/2 (1435)  | 5 - 0 1/2 (1537)  | 5 - 4 1/2 (1638)   | 6 - 0 1/2 (1842)  |
| <b>RO (mm)</b>  | 3 - 1 (940)      | 3 - 5 (1041)      | 4 - 1 (1245)      | 4 - 9 (1448)      | 5 - 1 (1549)      | 5 - 5 (1651)       | 6 - 1 (1854)      |
| <b>FS (mm)</b>  | 3 - 0 (914)      | 3 - 4 (1016)      | 4 - 0 (1219)      | 4 - 8 (1422)      | 5 - 0 (1524)      | 5 - 4 (1626)       | 6 - 0 (1829)      |
| <b>DLO (mm)</b> | 2 - 6 3/16 (767) | 2 - 10 3/16 (868) | 3 - 6 3/16 (1072) | 4 - 2 3/16 (1275) | 4 - 6 3/16 (1376) | 4 - 10 3/16 (1478) | 5 - 6 3/16 (1681) |

|   |  |  |  |   |   |   |   |
|---|--|--|--|---|---|---|---|
| 2 - 11 3/8 (898)<br>2 - 11 5/8 (904)<br>2 - 11 1/8 (892)<br>2 - 5 21/64 (745)     | <br>UCAVP3636   | <br>UCAVP4036   | <br>UCAVP4836*  | <br>UCAVP5636*   | <br>UCAVP6036*   | <br>UCAVP6436*   | <br>UCAVP7236*   |
| 3 - 3 3/8 (1000)<br>3 - 3 5/8 (1006)<br>3 - 3 1/8 (993)<br>2 - 9 21/64 (847)      | <br>UCAVP3640   | <br>UCAVP4040   | <br>UCAVP4840*  | <br>UCAVP5640*   | <br>UCAVP6040*   | <br>UCAVP6440*   | <br>UCAVP7240*   |
| 3 - 7 3/8 (1101)<br>3 - 7 5/8 (1108)<br>3 - 7 1/8 (1095)<br>3 - 1 21/64 (948)     | <br>UCAVP3644   | <br>UCAVP4044   | <br>UCAVP4844*  | <br>UCAVP5644*   | <br>UCAVP6044*   | <br>UCAVP6444*   | <br>UCAVP7244*   |
| 3 - 11 3/8 (1203)<br>3 - 11 5/8 (1209)<br>3 - 11 1/8 (1196)<br>3 - 5 21/64 (1050) | <br>UCAVP3648   | <br>UCAVP4048   | <br>UCAVP4848   | <br>UCAVP5648*   | <br>UCAVP6048*   | <br>UCAVP6448*   | <br>UCAVP7248*   |
| 4 - 5 3/8 (1355)<br>4 - 5 5/8 (1362)<br>4 - 5 1/8 (1349)<br>3 - 11 21/64 (1202)   | <br>UCAVP3654 | <br>UCAVP4054 | <br>UCAVP4854 | <br>UCAVP5654* | <br>UCAVP6054* | <br>UCAVP6454* | <br>UCAVP7254* |
| 4 - 7 3/8 (1406)<br>4 - 7 5/8 (1412)<br>4 - 7 1/8 (1400)<br>4 - 1 21/64 (1253)    | <br>UCAVP3656 | <br>UCAVP4056 | <br>UCAVP4856 | <br>UCAVP5656* | <br>UCAVP6056* | <br>UCAVP6456* | <br>UCAVP7256* |
| 4 - 11 3/8 (1508)<br>4 - 11 5/8 (1514)<br>4 - 11 1/8 (1501)<br>4 - 5 21/64 (1355) | <br>UCAVP3660 | <br>UCAVP4060 | <br>UCAVP4860 | <br>UCAVP5660* | <br>UCAVP6060* | <br>UCAVP6460* | <br>UCAVP7260* |

Details and Elevations not to scale.  
 \* Units will have structural cable on the head and sill.  
 Please consult your local Marvin representative for more information.  
 For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

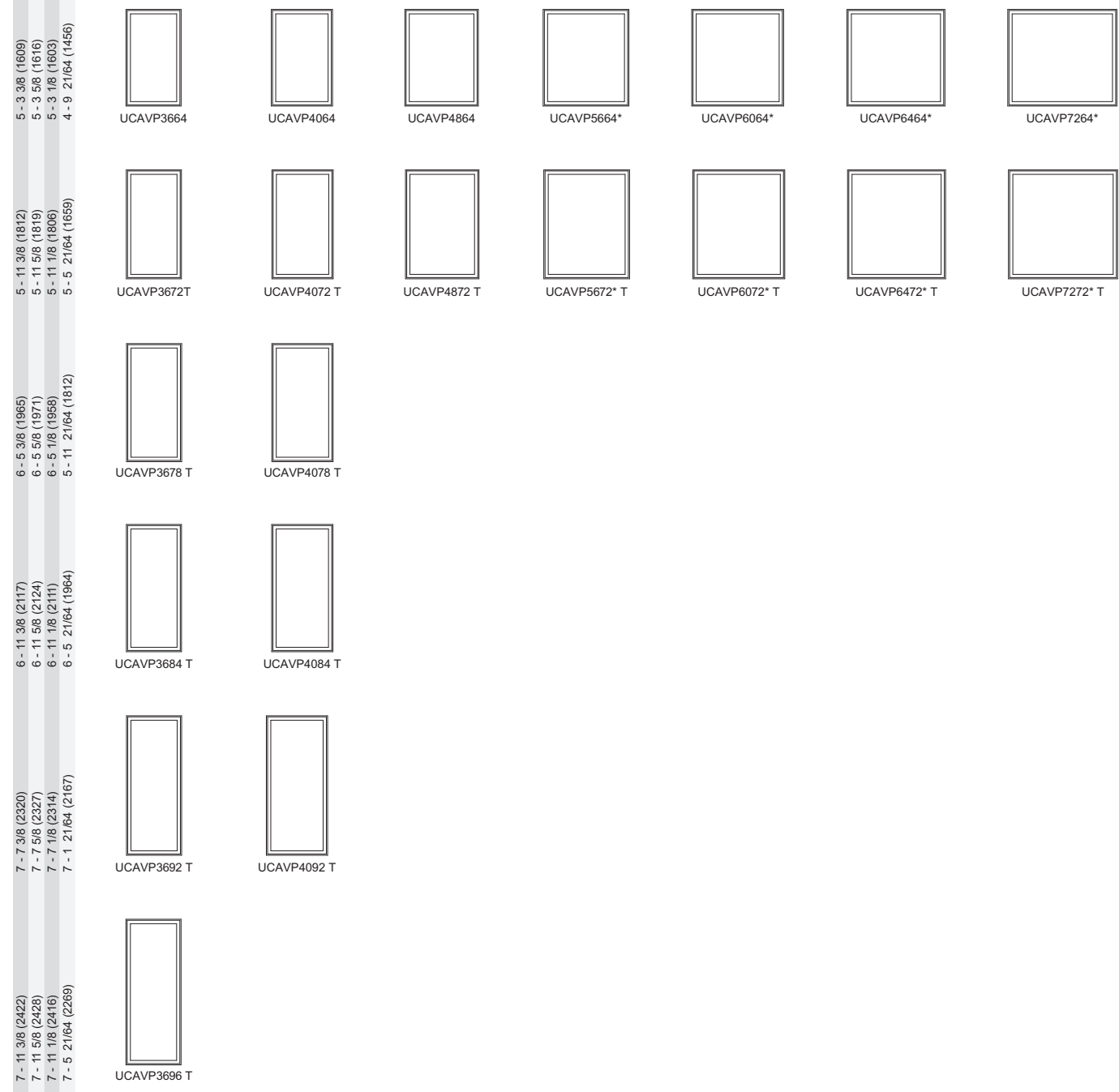
### CASEMENT VENTING PICTURE

|                 |                   |                  |                  |                  |                  |                   |                  |                  |
|-----------------|-------------------|------------------|------------------|------------------|------------------|-------------------|------------------|------------------|
| <b>MO (mm)</b>  | 1 - 4 1/2 (419)   | 1 - 6 1/2 (470)  | 1 - 8 1/2 (521)  | 2 - 0 1/2 (622)  | 2 - 2 1/2 (673)  | 2 - 4 1/2 (724)   | 2 - 6 1/2 (775)  | 2 - 8 1/2 (826)  |
| <b>RO (mm)</b>  | 1 - 5 (492)       | 1 - 7 (483)      | 1 - 9 (533)      | 2 - 1 (635)      | 2 - 3 (686)      | 2 - 5 (737)       | 2 - 7 (787)      | 2 - 9 (838)      |
| <b>FS (mm)</b>  | 1 - 4 (406)       | 1 - 6 (457)      | 1 - 8 (508)      | 2 - 0 (610)      | 2 - 2 (660)      | 2 - 4 (711)       | 2 - 6 (762)      | 2 - 8 (813)      |
| <b>DLO (mm)</b> | 0 - 10 3/16 (259) | 1 - 0 3/16 (310) | 1 - 2 3/16 (360) | 1 - 6 3/16 (462) | 1 - 8 3/16 (513) | 1 - 10 3/16 (564) | 2 - 0 3/16 (614) | 2 - 2 3/16 (665) |



### CASEMENT VENTING PICTURE

|                 |                  |                   |                   |                   |                   |                    |                   |
|-----------------|------------------|-------------------|-------------------|-------------------|-------------------|--------------------|-------------------|
| <b>MO (mm)</b>  | 3 - 0 1/2 (927)  | 3 - 4 1/2 (1029)  | 4 - 0 1/2 (1232)  | 4 - 8 1/2 (1435)  | 5 - 0 1/2 (1537)  | 5 - 4 1/2 (1638)   | 6 - 0 1/2 (1842)  |
| <b>RO (mm)</b>  | 3 - 1 (940)      | 3 - 5 (1041)      | 4 - 1 (1245)      | 4 - 9 (1448)      | 5 - 1 (1549)      | 5 - 5 (1651)       | 6 - 1 (1854)      |
| <b>FS (mm)</b>  | 3 - 0 (914)      | 3 - 4 (1016)      | 4 - 0 (1219)      | 4 - 8 (1422)      | 5 - 0 (1524)      | 5 - 4 (1626)       | 6 - 0 (1829)      |
| <b>DLO (mm)</b> | 2 - 6 3/16 (767) | 2 - 10 3/16 (868) | 3 - 6 3/16 (1072) | 4 - 2 3/16 (1275) | 4 - 6 3/16 (1376) | 4 - 10 3/16 (1478) | 5 - 6 3/16 (1681) |



Details and Elevations not to scale.

\* Units will have structural cable on the head and sill.

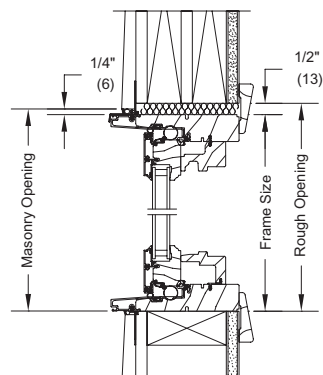
T For safety and/or code requirements, Marvin recommends tempered glass in all units with a frame size height of 71 1/8" or larger and units with frame size 25.2 ft² and larger.

Please consult your local Marvin representative for more information.

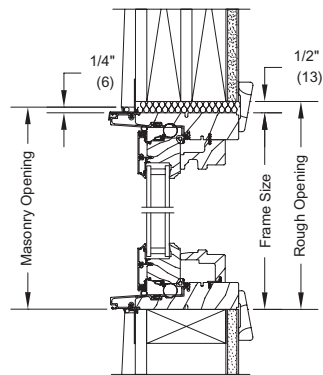
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

## CASEMENT VENTING PICTURE

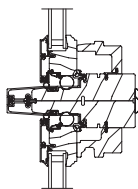
### CONSTRUCTION DETAILS



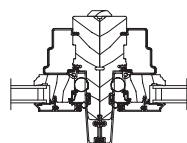
3/4" VENTING PICTURE  
HEAD JAMB AND SILL



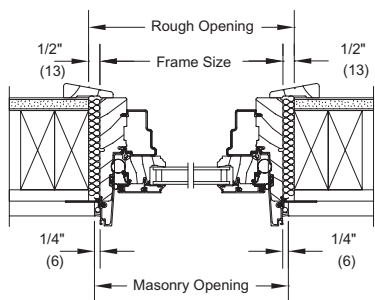
1" VENTING PICTURE  
HEAD JAMB AND SILL



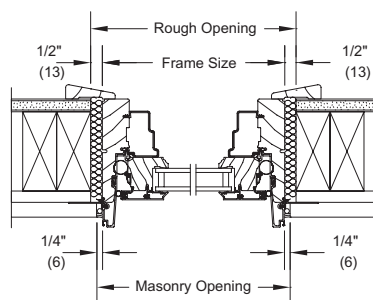
HORIZONTAL MULLION



VERTICAL MULLION



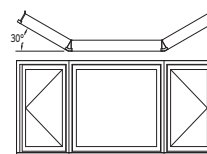
3/4" VENTING PICTURE  
JAMB



1" VENTING PICTURE  
JAMB

## WOOD CASEMENT BAY

### 30° ULTIMATE WOOD CASEMENT BAY WITH PICTURE CENTER UNIT



| UNIT NO. (WIDTH) | ROUGH OPENING (WIDTH) | PROJECTION   |
|------------------|-----------------------|--------------|
| 16-16-16         | 4-0 13/32 (1229)      | 9 3/8" (239) |
| 16-20-16         | 4-4 13/32 (1330)      | 9 3/8" (239) |
| 16-24-16         | 4-8 13/32 (1432)      | 9 3/8" (239) |
| 16-28-16         | 5-0 13/32 (1533)      | 9 3/8" (239) |
| 16-32-16         | 5-4 13/32 (1635)      | 9 3/8" (239) |
| 16-36-16         | 5-8 13/32 (1737)      | 9 3/8" (239) |
| 16-40-16         | 6-0 13/32 (1838)      | 9 3/8" (239) |
| 16-48-16         | 6-8 13/32 (2041)      | 9 3/8" (239) |
| 16-56-16         | 7-4 13/32 (2245)      | 9 3/8" (239) |
| 16-60-16         | 7-8 13/32 (2346)      | 9 3/8" (239) |
| 16-64-16         | 8-0 13/32 (2448)      | 9 3/8" (239) |
| 16-72-16         | 8-8 13/32 (2651)      | 9 3/8" (239) |

|          |                  |               |
|----------|------------------|---------------|
| 20-20-20 | 4-11 9/32 (1506) | 11 3/8" (289) |
| 20-24-20 | 5-3 9/32 (1608)  | 11 3/8" (289) |
| 20-28-20 | 5-7 9/32 (1709)  | 11 3/8" (289) |
| 20-32-20 | 5-11 9/32 (1811) | 11 3/8" (289) |
| 20-36-20 | 6-3 9/32 (1913)  | 11 3/8" (289) |
| 20-40-20 | 6-7 9/32 (2014)  | 11 3/8" (289) |
| 20-48-20 | 7-3 9/32 (2217)  | 11 3/8" (289) |
| 20-56-20 | 7-11 9/32 (2421) | 11 3/8" (289) |
| 20-60-20 | 8-3 9/32 (2522)  | 11 3/8" (289) |
| 20-64-20 | 8-7 9/32 (2624)  | 11 3/8" (289) |
| 20-72-20 | 9-3 9/32 (2827)  | 11 3/8" (289) |

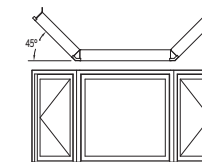
|          |                 |               |
|----------|-----------------|---------------|
| 24-24-24 | 5-10 1/4 (1784) | 13 3/8" (340) |
| 24-28-24 | 6-2 1/4 (1885)  | 13 3/8" (340) |
| 24-32-24 | 6-6 1/4 (1987)  | 13 3/8" (340) |
| 24-36-24 | 6-10 1/4 (2089) | 13 3/8" (340) |
| 24-40-24 | 7-2 1/4 (2190)  | 13 3/8" (340) |
| 24-48-24 | 7-10 1/4 (2393) | 13 3/8" (340) |
| 24-56-24 | 8-6 1/4 (2597)  | 13 3/8" (340) |
| 24-60-24 | 8-10 1/4 (2698) | 13 3/8" (340) |
| 24-64-24 | 9-2 1/4 (2800)  | 13 3/8" (340) |
| 24-72-24 | 9-10 1/4 (3003) | 13 3/8" (340) |

|          |                  |               |
|----------|------------------|---------------|
| 28-28-28 | 6-9 5/32 (2061)  | 15 3/8" (391) |
| 28-32-28 | 7-1 5/32 (2163)  | 15 3/8" (391) |
| 28-36-28 | 7-5 5/32 (2265)  | 15 3/8" (391) |
| 28-40-28 | 7-9 5/32 (2366)  | 15 3/8" (391) |
| 28-48-28 | 8-5 5/32 (2569)  | 15 3/8" (391) |
| 28-56-28 | 9-1 5/32 (2773)  | 15 3/8" (391) |
| 28-60-28 | 9-5 5/32 (2874)  | 15 3/8" (391) |
| 28-64-28 | 9-9 5/32 (2976)  | 15 3/8" (391) |
| 28-72-28 | 10-5 5/32 (3179) | 15 3/8" (391) |

|          |                 |               |
|----------|-----------------|---------------|
| 32-32-32 | 7-8 1/8 (2339)  | 17 3/8" (442) |
| 32-36-32 | 8-0 1/8 (2441)  | 17 3/8" (442) |
| 32-40-32 | 8-4 1/8 (2542)  | 17 3/8" (442) |
| 32-48-32 | 9-0 1/8 (2745)  | 17 3/8" (442) |
| 32-56-32 | 9-8 1/8 (2949)  | 17 3/8" (442) |
| 32-60-32 | 10-0 1/8 (3050) | 17 3/8" (442) |
| 32-64-32 | 10-4 1/8 (3152) | 17 3/8" (442) |
| 32-72-32 | 11-0 1/8 (3355) | 17 3/8" (442) |

|          |              |               |
|----------|--------------|---------------|
| 36-36-36 | 8-7 (2617)   | 19 3/8" (493) |
| 36-40-36 | 8-11 (2718)  | 19 3/8" (493) |
| 36-48-36 | 9-7 (2921)   | 19 3/8" (493) |
| 36-56-36 | 10-3 (3125)  | 19 3/8" (493) |
| 36-60-36 | 10-7 (3226)  | 19 3/8" (493) |
| 36-64-36 | 10-11 (3328) | 19 3/8" (493) |
| 36-72-36 | 11-7 (3531)  | 19 3/8" (493) |

### 45° ULTIMATE WOOD CASEMENT BAY WITH PICTURE CENTER UNIT



| UNIT NO. (WIDTH) | ROUGH OPENING (WIDTH) | PROJECTION    |
|------------------|-----------------------|---------------|
| 16-16-16         | 3-7 7/8 (1114)        | 13 3/4" (349) |
| 16-20-16         | 3-11 7/8 (1216)       | 13 3/4" (349) |
| 16-24-16         | 4-3 7/8 (1318)        | 13 3/4" (349) |
| 16-28-16         | 4-7 7/8 (1419)        | 13 3/4" (349) |
| 16-32-16         | 4-11 7/8 (1521)       | 13 3/4" (349) |
| 16-36-16         | 5-3 7/8 (1622)        | 13 3/4" (349) |
| 16-40-16         | 5-7 7/8 (1724)        | 13 3/4" (349) |
| 16-48-16         | 6-3 7/8 (1927)        | 13 3/4" (349) |
| 16-56-16         | 6-11 7/8 (2130)       | 13 3/4" (349) |
| 16-60-16         | 7-3 7/8 (2232)        | 13 3/4" (349) |
| 16-64-16         | 7-7 7/8 (2334)        | 13 3/4" (349) |
| 16-72-16         | 8-3 7/8 (2537)        | 13 3/4" (349) |

|          |                  |                |
|----------|------------------|----------------|
| 20-20-20 | 4-5 17/32 (1360) | 16 9/16" (421) |
| 20-24-20 | 4-9 17/32 (1461) | 16 9/16" (421) |
| 20-28-20 | 5-1 17/32 (1563) | 16 9/16" (421) |
| 20-32-20 | 5-5 17/32 (1664) | 16 9/16" (421) |
| 20-36-20 | 5-9 17/32 (1766) | 16 9/16" (421) |
| 20-40-20 | 6-1 17/32 (1868) | 16 9/16" (421) |
| 20-48-20 | 6-9 17/32 (2071) | 16 9/16" (421) |
| 20-56-20 | 7-5 17/32 (2274) | 16 9/16" (421) |
| 20-60-20 | 7-9 17/32 (2376) | 16 9/16" (421) |
| 20-64-20 | 8-1 17/32 (2477) | 16 9/16" (421) |
| 20-72-20 | 8-9 17/32 (2680) | 16 9/16" (421) |

|          |                  |                 |
|----------|------------------|-----------------|
| 24-24-24 | 5-3 3/16 (1605)  | 19 13/32" (493) |
| 24-28-24 | 5-7 3/16 (1706)  | 19 13/32" (493) |
| 24-32-24 | 5-11 3/16 (1808) | 19 13/32" (493) |
| 24-36-24 | 6-3 3/16 (1910)  | 19 13/32" (493) |
| 24-40-24 | 6-7 3/16 (2011)  | 19 13/32" (493) |
| 24-48-24 | 7-3 3/16 (2214)  | 19 13/32" (493) |
| 24-56-24 | 7-11 3/16 (2418) | 19 13/32" (493) |
| 24-60-24 | 8-3 3/16 (2519)  | 19 13/32" (493) |
| 24-64-24 | 8-7 3/16 (2621)  | 19 13/32" (493) |
| 24-72-24 | 9-3 3/16 (2824)  | 19 13/32" (493) |

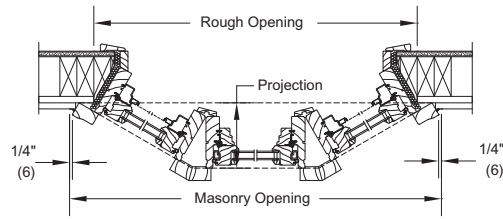
|          |                  |               |
|----------|------------------|---------------|
| 28-28-28 | 6-0 27/32 (1850) | 22 1/4" (565) |
| 28-32-28 | 6-4 27/32 (1952) | 22 1/4" (565) |
| 28-36-28 | 6-8 27/32 (2053) | 22 1/4" (565) |
| 28-40-28 | 7-0 27/32 (2155) | 22 1/4" (565) |
| 28-48-28 | 7-8 27/32 (2358) | 22 1/4" (565) |
| 28-56-28 | 8-4 27/32 (2561) | 22 1/4" (565) |
| 28-60-28 | 8-8 27/32 (2663) | 22 1/4" (565) |
| 28-64-28 | 9-0 27/32 (2765) | 22 1/4" (565) |
| 28-72-28 | 9-8 27/32 (2968) | 22 1/4" (565) |

|          |                 |                |
|----------|-----------------|----------------|
| 32-32-32 | 6-10 1/2 (2095) | 25 1/16" (637) |
| 32-36-32 | 7-2 1/2 (2197)  | 25 1/16" (637) |
| 32-40-32 | 7-6 1/2 (2299)  | 25 1/16" (637) |
| 32-48-32 | 8-2 1/2 (2502)  | 25 1/16" (637) |
| 32-56-32 | 8-10 1/2 (2705) | 25 1/16" (637) |
| 32-60-32 | 9-2 1/2 (2807)  | 25 1/16" (637) |
| 32-64-32 | 9-6 1/2 (2908)  | 25 1/16" (637) |
| 32-72-32 | 10-2 1/2 (3111) | 25 1/16" (637) |

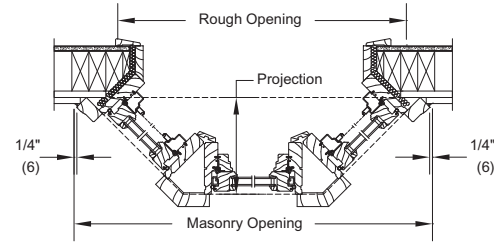
|          |                  |                 |
|----------|------------------|-----------------|
| 36-36-36 | 7-8 5/32 (2341)  | 27 29/32" (709) |
| 36-40-36 | 8-0 5/32 (2442)  | 27 29/32" (709) |
| 36-48-36 | 8-8 5/32 (2646)  | 27 29/32" (709) |
| 36-56-36 | 9-4 5/32 (2849)  | 27 29/32" (709) |
| 36-60-36 | 9-8 5/32 (2950)  | 27 29/32" (709) |
| 36-64-36 | 10-0 5/32 (3052) | 27 29/32" (709) |
| 36-72-36 | 10-8 5/32 (3255) | 27 29/32" (709) |

# WOOD CASEMENT BAY

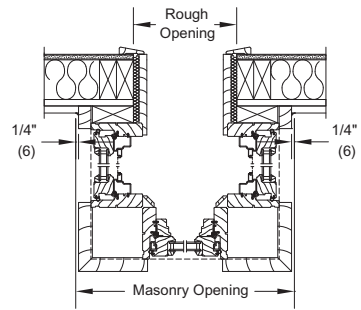
## CONSTRUCTION DETAILS



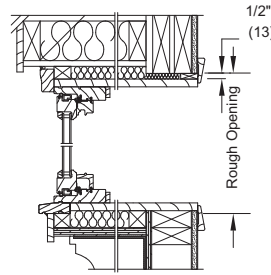
30° ULTIMATE WOOD CASEMENT BAY WITH STATIONARY CENTER JAMB



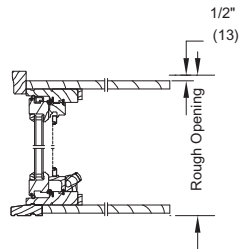
45° ULTIMATE WOOD CASEMENT BAY WITH STATIONARY CENTER JAMB



90° ULTIMATE WOOD CASEMENT BAY WITH STATIONARY CENTER UNIT JAMB



ULTIMATE WOOD CASEMENT STATIONARY HEAD JAMB AND SILL



ULTIMATE WOOD CASEMENT OPERATOR HEAD JAMB AND SILL

## ROUGH OPENING HEIGHTS

| UNIT NO. (HEIGHT) | ROUGH OPENING (HEIGHT) |
|-------------------|------------------------|
| 24                | 2-1 1/4 (641)          |
| 32                | 2-9 1/4 (845)          |
| 36                | 3-1 1/4 (946)          |
| 40                | 3-5 1/4 (1048)         |
| 48                | 4-1 1/4 (1251)         |
| 56                | 4-9 1/4 (1454)         |
| 60                | 5-1 1/4 (1556)         |
| 64                | 5-5 1/4 (1657)         |
| 72                | 6-1 1/4 (1861)         |

Details and Elevations not to scale.

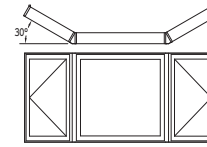
- Above dimensions include head and seat boards. If no head board, deduct 1/16" (17) in rough opening height.

Please consult your local Marvin representative for more information.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

# CASEMENT BAY

## 30° ULTIMATE CASEMENT BAY WITH PICTURE CENTER UNIT



| UNIT NO. (WIDTH) | ROUGH OPENING (WIDTH) | PROJECTION   |
|------------------|-----------------------|--------------|
| 16-16-16         | 4-0 21/32 (1236)      | 8 5/8" (219) |
| 16-20-16         | 4-4 21/32 (1337)      | 8 5/8" (219) |
| 16-24-16         | 4-8 21/32 (1439)      | 8 5/8" (219) |
| 16-28-16         | 5-0 21/32 (1541)      | 8 5/8" (219) |
| 16-32-16         | 5-4 21/32 (1642)      | 8 5/8" (219) |
| 16-36-16         | 5-8 21/32 (1744)      | 8 5/8" (219) |
| 16-40-16         | 6-0 21/32 (1845)      | 8 5/8" (219) |
| 16-48-16         | 6-8 21/32 (2049)      | 8 5/8" (219) |
| 16-56-16         | 7-4 21/32 (2252)      | 8 5/8" (219) |
| 16-60-16         | 7-8 21/32 (2353)      | 8 5/8" (219) |
| 16-64-16         | 8-0 21/32 (2455)      | 8 5/8" (219) |
| 16-72-16         | 8-8 21/32 (2658)      | 8 5/8" (219) |

|          |                   |               |
|----------|-------------------|---------------|
| 20-20-20 | 4-11 19/32 (1513) | 10 5/8" (270) |
| 20-24-20 | 5-3 19/32 (1615)  | 10 5/8" (270) |
| 20-28-20 | 5-7 19/32 (1716)  | 10 5/8" (270) |
| 20-32-20 | 5-11 19/32 (1818) | 10 5/8" (270) |
| 20-36-20 | 6-3 19/32 (1920)  | 10 5/8" (270) |
| 20-40-20 | 6-7 19/32 (2021)  | 10 5/8" (270) |
| 20-48-20 | 7-3 19/32 (2224)  | 10 5/8" (270) |
| 20-56-20 | 7-11 19/32 (2428) | 10 5/8" (270) |
| 20-60-20 | 8-3 19/32 (2529)  | 10 5/8" (270) |
| 20-64-20 | 8-7 19/32 (2631)  | 10 5/8" (270) |
| 20-72-20 | 9-3 19/32 (2834)  | 10 5/8" (270) |

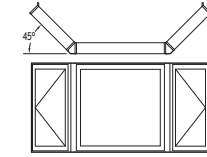
|          |                 |               |
|----------|-----------------|---------------|
| 24-24-24 | 5-10 1/2 (1791) | 12 5/8" (320) |
| 24-28-24 | 6-2 1/2 (1892)  | 12 5/8" (320) |
| 24-32-24 | 6-6 1/2 (1994)  | 12 5/8" (320) |
| 24-36-24 | 6-10 1/2 (2096) | 12 5/8" (320) |
| 24-40-24 | 7-2 1/2 (2197)  | 12 5/8" (320) |
| 24-48-24 | 7-10 1/2 (2400) | 12 5/8" (320) |
| 24-56-24 | 8-6 1/2 (2604)  | 12 5/8" (320) |
| 24-60-24 | 8-10 1/2 (2705) | 12 5/8" (320) |
| 24-64-24 | 9-2 1/2 (2807)  | 12 5/8" (320) |
| 24-72-24 | 9-10 1/2 (3010) | 12 5/8" (320) |

|          |                  |               |
|----------|------------------|---------------|
| 28-28-28 | 6-9 7/16 (2068)  | 14 5/8" (371) |
| 28-32-28 | 7-1 7/16 (2170)  | 14 5/8" (371) |
| 28-36-28 | 7-5 7/16 (2272)  | 14 5/8" (371) |
| 28-40-28 | 7-9 7/16 (2373)  | 14 5/8" (371) |
| 28-48-28 | 8-5 7/16 (2576)  | 14 5/8" (371) |
| 28-56-28 | 9-1 7/16 (2780)  | 14 5/8" (371) |
| 28-60-28 | 9-5 7/16 (2881)  | 14 5/8" (371) |
| 28-64-28 | 9-9 7/16 (2983)  | 14 5/8" (371) |
| 28-72-28 | 10-5 7/16 (3186) | 14 5/8" (371) |

|          |                 |               |
|----------|-----------------|---------------|
| 32-32-32 | 7-8 3/8 (2346)  | 16 5/8" (422) |
| 32-36-32 | 8-0 3/8 (2448)  | 16 5/8" (422) |
| 32-40-32 | 8-4 3/8 (2549)  | 16 5/8" (422) |
| 32-48-32 | 9-0 3/8 (2752)  | 16 5/8" (422) |
| 32-56-32 | 9-8 3/8 (2956)  | 16 5/8" (422) |
| 32-60-32 | 10-0 3/8 (3057) | 16 5/8" (422) |
| 32-64-32 | 10-4 3/8 (3159) | 16 5/8" (422) |
| 32-72-32 | 11-0 3/8 (3362) | 16 5/8" (422) |

|          |                   |               |
|----------|-------------------|---------------|
| 36-36-36 | 8-7 5/16 (2624)   | 18 5/8" (473) |
| 36-40-36 | 8-11 5/16 (2725)  | 18 5/8" (473) |
| 36-48-36 | 9-7 5/16 (2928)   | 18 5/8" (473) |
| 36-56-36 | 10-3 5/16 (3132)  | 18 5/8" (473) |
| 36-60-36 | 10-7 5/16 (3233)  | 18 5/8" (473) |
| 36-64-36 | 10-11 5/16 (3335) | 18 5/8" (473) |
| 36-72-36 | 11-7 5/16 (3538)  | 18 5/8" (473) |

## 45° ULTIMATE CASEMENT BAY WITH PICTURE CENTER UNIT



| UNIT NO. (WIDTH) | ROUGH OPENING (WIDTH) | PROJECTION      |
|------------------|-----------------------|-----------------|
| 16-16-16         | 3-9 11/32 (1151)      | 12 21/32" (321) |
| 16-20-16         | 4-1 11/32 (1253)      | 12 21/32" (321) |
| 16-24-16         | 4-5 11/32 (1355)      | 12 21/32" (321) |
| 16-28-16         | 4-9 11/32 (1456)      | 12 21/32" (321) |
| 16-32-16         | 5-1 11/32 (1558)      | 12 21/32" (321) |
| 16-36-16         | 5-5 11/32 (1659)      | 12 21/32" (321) |
| 16-40-16         | 5-9 11/32 (1761)      | 12 21/32" (321) |
| 16-48-16         | 6-5 11/32 (1964)      | 12 21/32" (321) |
| 16-56-16         | 7-1 11/32 (2167)      | 12 21/32" (321) |
| 16-60-16         | 7-5 11/32 (2269)      | 12 21/32" (321) |
| 16-64-16         | 7-9 11/32 (2371)      | 12 21/32" (321) |
| 16-72-16         | 8-5 11/32 (2574)      | 12 21/32" (321) |

|          |             |               |
|----------|-------------|---------------|
| 20-20-20 | 4-7 (1397)  | 15 1/2" (393) |
| 20-24-20 | 4-11 (1498) | 15 1/2" (393) |
| 20-28-20 | 5-3 (1600)  | 15 1/2" (393) |
| 20-32-20 | 5-7 (1701)  | 15 1/2" (393) |
| 20-36-20 | 5-11 (1803) | 15 1/2" (393) |
| 20-40-20 | 6-3 (1905)  | 15 1/2" (393) |
| 20-48-20 | 6-11 (2108) | 15 1/2" (393) |
| 20-56-20 | 7-7 (2311)  | 15 1/2" (393) |
| 20-60-20 | 7-11 (2413) | 15 1/2" (393) |
| 20-64-20 | 8-3 (2514)  | 15 1/2" (393) |
| 20-72-20 | 8-11 (2717) | 15 1/2" (393) |

|          |                  |                |
|----------|------------------|----------------|
| 24-24-24 | 5-4 21/32 (1642) | 18 5/16" (465) |
| 24-28-24 | 5-8 21/32 (1744) | 18 5/16" (465) |
| 24-32-24 | 6-0 21/32 (1845) | 18 5/16" (465) |
| 24-36-24 | 6-4 21/32 (1947) | 18 5/16" (465) |
| 24-40-24 | 6-8 21/32 (2048) | 18 5/16" (465) |
| 24-48-24 | 7-4 21/32 (2252) | 18 5/16" (465) |
| 24-56-24 | 8-0 21/32 (2455) | 18 5/16" (465) |
| 24-60-24 | 8-4 21/32 (2556) | 18 5/16" (465) |
| 24-64-24 | 8-8 21/32 (2658) | 18 5/16" (465) |
| 24-72-24 | 9-4 21/32 (2861) | 18 5/16" (465) |

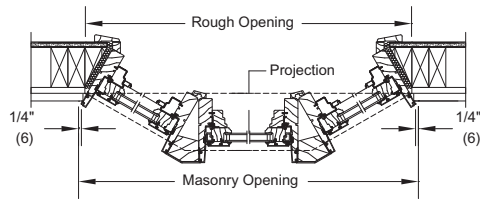
|          |                  |               |
|----------|------------------|---------------|
| 28-28-28 | 6-2 5/16 (1887)  | 21 1/8" (537) |
| 28-32-28 | 6-6 5/16 (1989)  | 21 1/8" (537) |
| 28-36-28 | 6-10 5/16 (2090) | 21 1/8" (537) |
| 28-40-28 | 7-2 5/16 (2192)  | 21 1/8" (537) |
| 28-48-28 | 7-10 5/16 (2395) | 21 1/8" (537) |
| 28-56-28 | 8-6 5/16 (2598)  | 21 1/8" (537) |
| 28-60-28 | 8-10 5/16 (2700) | 21 1/8" (537) |
| 28-64-28 | 9-2 5/16 (2802)  | 21 1/8" (537) |
| 28-72-28 | 9-10 5/16 (3005) | 21 1/8" (537) |

|          |                   |                 |
|----------|-------------------|-----------------|
| 32-32-32 | 6-11 31/32 (2133) | 23 31/32" (609) |
| 32-36-32 | 7-3 31/32 (2234)  | 23 31/32" (609) |
| 32-40-32 | 7-7 31/32 (2336)  | 23 31/32" (609) |
| 32-48-32 | 8-3 31/32 (2539)  | 23 31/32" (609) |
| 32-56-32 | 8-11 31/32 (2742) | 23 31/32" (609) |
| 32-60-32 | 9-3 31/32 (2844)  | 23 31/32" (609) |
| 32-64-32 | 9-7 31/32 (2945)  | 23 31/32" (609) |
| 32-72-32 | 10-3 31/32 (3149) | 23 31/32" (609) |

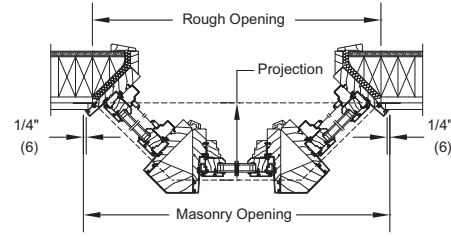
|          |                 |                 |
|----------|-----------------|-----------------|
| 36-36-36 | 7-9 5/8 (2378)  | 26 13/16" (681) |
| 36-40-36 | 8-1 5/8 (2479)  | 26 13/16" (681) |
| 36-48-36 | 8-9 5/8 (2683)  | 26 13/16" (681) |
| 36-56-36 | 9-5 5/8 (2886)  | 26 13/16" (681) |
| 36-60-36 | 9-9 5/8 (2987)  | 26 13/16" (681) |
| 36-64-36 | 10-1 5/8 (3089) | 26 13/16" (681) |
| 36-72-36 | 10-9 5/8 (3292) | 26 13/16" (681) |

### CASEMENT BAY

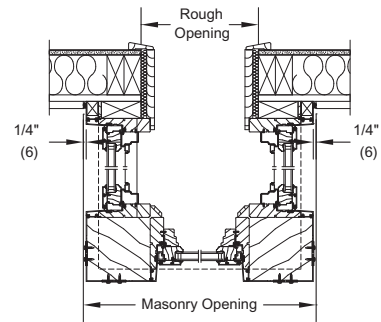
#### CONSTRUCTION DETAILS



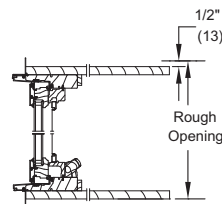
30° ULTIMATE CASEMENT BAY WITH STATIONARY CENTER JAMB



45° ULTIMATE CASEMENT BAY WITH STATIONARY CENTER JAMB



90° ULTIMATE CASEMENT BAY WITH STATIONARY CENTER UNIT JAMB



ULTIMATE CASEMENT OPERATOR HEAD JAMB AND SILL

#### ROUGH OPENING HEIGHTS

| UNIT NO. (HEIGHT) | ROUGH OPENING (HEIGHT) |
|-------------------|------------------------|
| 24                | 2-1 (635)              |
| 32                | 2-9 (838)              |
| 36                | 3-1 (940)              |
| 40                | 3-5 (1041)             |
| 48                | 4-1 (1245)             |
| 56                | 4-9 (1448)             |
| 60                | 5-1 (1549)             |
| 64                | 5-5 (1651)             |
| 72                | 6-1 (1854)             |

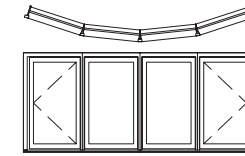
Details and Elevations not to scale.  
 • Above dimensions include head and seat boards. If no head board, deduct 1/16" (17) in rough opening height.

Please consult your local Marvin representative for masonry openings that include casings and subsills.

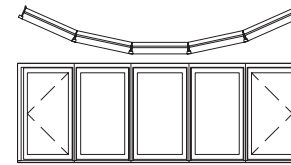
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

### WOOD CASEMENT BOW

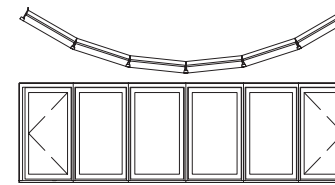
#### CONSTRUCTION DETAILS



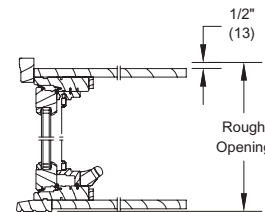
ULTIMATE WOOD CASEMENT 4-WIDE BOW



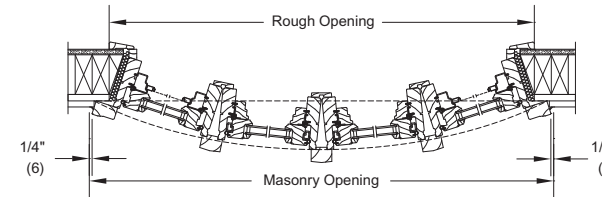
ULTIMATE WOOD CASEMENT 5-WIDE BOW



ULTIMATE WOOD CASEMENT 6-WIDE BOW



ULTIMATE WOOD CASEMENT OPERATOR HEAD JAMB AND SILL



ULTIMATE WOOD CASEMENT JAMB

| UNIT NO. (WIDTH) | ROUGH OPENING (WIDTH) | PROJECTION     |
|------------------|-----------------------|----------------|
| 16-4W            | 5-5 3/4 (1670)        | 7 11/32" (187) |
| 16-5W            | 6-8 11/16 (2049)      | 10 7/8" (276)  |
| 16-6W            | 7-10 5/8 (2404)       | 16 1/32" (407) |

|       |                  |                 |
|-------|------------------|-----------------|
| 20-4W | 6-9 5/16 (2066)  | 9" (229)        |
| 20-5W | 8-3 13/16 (2535) | 13 5/16" (338)  |
| 20-6W | 9-9 1/8 (2975)   | 19 11/16" (500) |

|       |                   |                 |
|-------|-------------------|-----------------|
| 24-4W | 8-0 7/8 (2461)    | 10 21/32" (270) |
| 24-5W | 9-10 15/16 (3021) | 15 25/32" (401) |
| 24-6W | 11-7 5/8 (3546)   | 23 11/32" (593) |

|       |                  |                |
|-------|------------------|----------------|
| 28-4W | 9-4 7/16 (2856)  | 12 5/16" (313) |
| 28-5W | 11-6 1/16 (3507) | 18 1/4" (463)  |
| 28-6W | 13-6 1/8 (4118)  | 27" (686)      |

|       |                  |                 |
|-------|------------------|-----------------|
| 32-4W | 10-8 (3252)      | 13 31/32" (355) |
| 32-5W | 13-1 7/32 (3993) | 20 11/16" (526) |

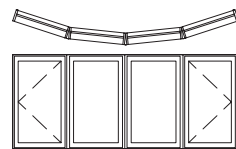
|       |                    |                |
|-------|--------------------|----------------|
| 36-4W | 11-11 19/32 (3647) | 15 5/8" (397)  |
| 36-5W | 14-8 11/32 (4479)  | 23 5/32" (588) |

#### ROUGH OPENING HEIGHTS

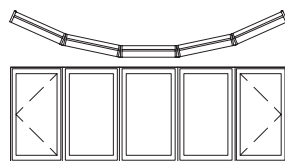
| UNIT NO. (HEIGHT) | ROUGH OPENING (HEIGHT) |
|-------------------|------------------------|
| 24                | 2-1 1/4 (641)          |
| 32                | 2-9 1/4 (845)          |
| 36                | 3-1 1/4 (946)          |
| 40                | 3-5 1/4 (1048)         |
| 48                | 4-1 1/4 (1251)         |
| 56                | 4-9 1/4 (1454)         |
| 60                | 5-1 1/4 (1556)         |
| 64                | 5-5 1/4 (1657)         |
| 72                | 6-1 1/4 (1861)         |

### CASEMENT BOW

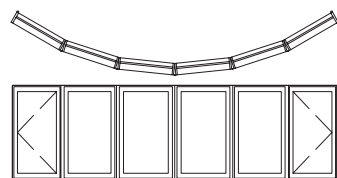
#### CONSTRUCTION DETAILS



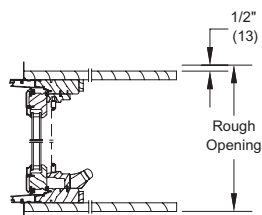
ULTIMATE CASEMENT  
4-WIDE BOW



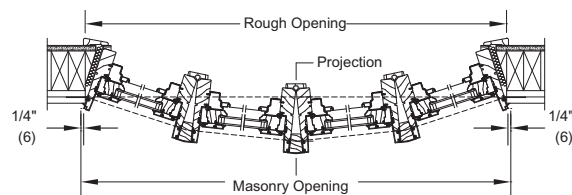
ULTIMATE CASEMENT  
5-WIDE BOW



ULTIMATE CASEMENT  
6-WIDE BOW



ULTIMATE CASEMENT  
OPERATOR HEAD JAMB AND SILL



ULTIMATE CASEMENT JAMB

| UNIT NO. (WIDTH) | ROUGH OPENING (WIDTH) | PROJECTION      |
|------------------|-----------------------|-----------------|
| 16-4W            | 5-5 7/16 (1662)       | 6 7/8" (174)    |
| 16-5W            | 6-8 5/8 (2048)        | 10 1/4" (260)   |
| 16-6W            | 7-10 29/32 (2411)     | 15 1/4" (387)   |
| <hr/>            |                       |                 |
| 20-4W            | 6-9 (2058)            | 8 1/2" (216)    |
| 20-5W            | 8-3 3/4 (2534)        | 12 11/16" (322) |
| 20-6W            | 9-9 13/32 (2982)      | 18 29/32" (480) |
| <hr/>            |                       |                 |
| 24-4W            | 8-0 9/16 (2453)       | 10 3/16" (258)  |
| 24-5W            | 9-10 7/8 (3020)       | 15 1/8" (385)   |
| 24-6W            | 11-7 7/8 (3553)       | 22 9/16" (573)  |
| <hr/>            |                       |                 |
| 28-4W            | 9-4 1/8 (2849)        | 11 13/16" (300) |
| 28-5W            | 11-6 1/64 (3506)      | 17 5/8" (447)   |
| 28-6W            | 13-6 3/8 (4124)       | 26 7/32" (666)  |
| <hr/>            |                       |                 |
| 32-4W            | 10-7 23/32 (3244)     | 13 1/2" (342)   |
| 32-5W            | 13-1 5/32 (3992)      | 20 1/16" (510)  |
| <hr/>            |                       |                 |
| 36-4W            | 11-11 9/32 (3639)     | 15 1/8" (384)   |
| 36-5W            | 14-8 9/32 (4578)      | 22 1/2" (572)   |

#### ROUGH OPENING HEIGHTS

| UNIT NO. (HEIGHT) | ROUGH OPENING (HEIGHT) |
|-------------------|------------------------|
| 24                | 2-1 (635)              |
| 32                | 2-9 (838)              |
| 36                | 3-1 (940)              |
| 40                | 3-5 (1041)             |
| 48                | 4-1 (1245)             |
| 56                | 4-9 (1448)             |
| 60                | 5-1 (1549)             |
| 64                | 5-5 (1651)             |
| 72                | 6-1 (1859)             |

### GLIDER - XO, OX, XX

| MO (mm)  | 3-0 (914)      | 3-6 (1067)     | 4-0 (1219)      | 4-6 (1372)      | 5-0 (1524)      | 5-6 (1676)     | 6-0 (1829)      |
|----------|----------------|----------------|-----------------|-----------------|-----------------|----------------|-----------------|
| RO (mm)  | 3-0 1/2 (927)  | 3-6 1/2 (1080) | 4-0 1/2 (1232)  | 4-6 1/2 (1384)  | 5-0 1/2 (1537)  | 5-6 1/2 (1689) | 6-0 1/2 (1842)  |
| FS (mm)  | 2-11 1/2 (902) | 3-5 1/2 (1054) | 3-11 1/2 (1207) | 4-5 1/2 (1359)  | 4-11 1/2 (1511) | 5-5 1/2 (1664) | 5-11 1/2 (1816) |
| DLO (mm) | 1-1 9/32 (337) | 1-4 9/32 (413) | 1-7 9/32 (490)  | 1-10 9/32 (566) | 2-1 9/32 (642)  | 2-4 9/32 (718) | 2-7 9/32 (794)  |

|                   |         |         |           |           |           |           |           |
|-------------------|---------|---------|-----------|-----------|-----------|-----------|-----------|
| 1-11 3/4 (603)    | UGL3020 | UGL3620 | UGL4020   | UGL4620   | UGL5020   | UGL5620   | UGL6020   |
| 2-0 (610)         | UGL3020 | UGL3620 | UGL4020   | UGL4620   | UGL5020   | UGL5620   | UGL6020   |
| 1-11 1/2 (597)    | UGL3020 | UGL3620 | UGL4020   | UGL4620   | UGL5020   | UGL5620   | UGL6020   |
| 1-4 23/32 (425)   | UGL3020 | UGL3620 | UGL4020   | UGL4620   | UGL5020   | UGL5620   | UGL6020   |
| 2-5 3/4 (756)     | UGL3026 | UGL3626 | UGL4026   | UGL4626   | UGL5026   | UGL5626   | UGL6026   |
| 2-6 (762)         | UGL3026 | UGL3626 | UGL4026   | UGL4626   | UGL5026   | UGL5626   | UGL6026   |
| 2-5 1/2 (745)     | UGL3026 | UGL3626 | UGL4026   | UGL4626   | UGL5026   | UGL5626   | UGL6026   |
| 1-10 23/32 (577)  | UGL3026 | UGL3626 | UGL4026   | UGL4626   | UGL5026   | UGL5626   | UGL6026   |
| 2-11 3/4 (908)    | UGL3030 | UGL3630 | UGL4030   | UGL4630   | UGL5030 E | UGL5630 E | UGL6030 E |
| 3-0 (914)         | UGL3030 | UGL3630 | UGL4030   | UGL4630   | UGL5030 E | UGL5630 E | UGL6030 E |
| 2-11 1/2 (902)    | UGL3030 | UGL3630 | UGL4030   | UGL4630   | UGL5030 E | UGL5630 E | UGL6030 E |
| 2-4 23/32 (729)   | UGL3030 | UGL3630 | UGL4030   | UGL4630   | UGL5030 E | UGL5630 E | UGL6030 E |
| 3-5 3/4 (1060)    | UGL3036 | UGL3636 | UGL4036   | UGL4636 E | UGL5036 E | UGL5636 E | UGL6036 E |
| 3-6 (1067)        | UGL3036 | UGL3636 | UGL4036   | UGL4636 E | UGL5036 E | UGL5636 E | UGL6036 E |
| 3-5 1/2 (1054)    | UGL3036 | UGL3636 | UGL4036   | UGL4636 E | UGL5036 E | UGL5636 E | UGL6036 E |
| 2-10 23/32 (882)  | UGL3036 | UGL3636 | UGL4036   | UGL4636 E | UGL5036 E | UGL5636 E | UGL6036 E |
| 3-11 3/4 (1213)   | UGL3040 | UGL3640 | UGL4040 E | UGL4640 E | UGL5040 E | UGL5640 E | UGL6040 E |
| 4-0 (1219)        | UGL3040 | UGL3640 | UGL4040 E | UGL4640 E | UGL5040 E | UGL5640 E | UGL6040 E |
| 3-11 1/2 (1207)   | UGL3040 | UGL3640 | UGL4040 E | UGL4640 E | UGL5040 E | UGL5640 E | UGL6040 E |
| 3-4 23/32 (1034)  | UGL3040 | UGL3640 | UGL4040 E | UGL4640 E | UGL5040 E | UGL5640 E | UGL6040 E |
| 4-5 3/4 (1365)    | UGL3046 | UGL3646 | UGL4046 E | UGL4646 E | UGL5046 E | UGL5646 E | UGL6046 E |
| 4-6 (1372)        | UGL3046 | UGL3646 | UGL4046 E | UGL4646 E | UGL5046 E | UGL5646 E | UGL6046 E |
| 4-5 1/2 (1359)    | UGL3046 | UGL3646 | UGL4046 E | UGL4646 E | UGL5046 E | UGL5646 E | UGL6046 E |
| 3-10 23/32 (1187) | UGL3046 | UGL3646 | UGL4046 E | UGL4646 E | UGL5046 E | UGL5646 E | UGL6046 E |
| 4-11 3/4 (1518)   | UGL3050 | UGL3650 | UGL4050 E | UGL4650 E | UGL5050 E | UGL5650 E | UGL6050 E |
| 5-0 (1524)        | UGL3050 | UGL3650 | UGL4050 E | UGL4650 E | UGL5050 E | UGL5650 E | UGL6050 E |
| 4-11 1/2 (1511)   | UGL3050 | UGL3650 | UGL4050 E | UGL4650 E | UGL5050 E | UGL5650 E | UGL6050 E |
| 4-4 23/32 (1339)  | UGL3050 | UGL3650 | UGL4050 E | UGL4650 E | UGL5050 E | UGL5650 E | UGL6050 E |
| 5-5 3/4 (1670)    | UGL3056 | UGL3656 | UGL4056 E | UGL4656 E | UGL5056 E | UGL5656 E | UGL6056 E |
| 5-6 (1676)        | UGL3056 | UGL3656 | UGL4056 E | UGL4656 E | UGL5056 E | UGL5656 E | UGL6056 E |
| 5-5 1/2 (1664)    | UGL3056 | UGL3656 | UGL4056 E | UGL4656 E | UGL5056 E | UGL5656 E | UGL6056 E |
| 4-10 23/32 (1491) | UGL3056 | UGL3656 | UGL4056 E | UGL4656 E | UGL5056 E | UGL5656 E | UGL6056 E |
| 5-11 3/4 (1822)   | UGL3060 | UGL3660 | UGL4060 E | UGL4660 E | UGL5060 E | UGL5660 E | UGL6060 E |
| 6-0 (1829)        | UGL3060 | UGL3660 | UGL4060 E | UGL4660 E | UGL5060 E | UGL5660 E | UGL6060 E |
| 5-11 1/2 (1816)   | UGL3060 | UGL3660 | UGL4060 E | UGL4660 E | UGL5060 E | UGL5660 E | UGL6060 E |
| 5-4 23/32 (1644)  | UGL3060 | UGL3660 | UGL4060 E | UGL4660 E | UGL5060 E | UGL5660 E | UGL6060 E |

Details and Elevations not to scale.

- XO, OX, XX, XOX, and O available. Both sides of triple sash units operate.

E These windows meet national Egress codes for fire evacuation. Local codes may differ.

Please consult your local Marvin representative for more information.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

Details and Elevations not to scale.  
 • Above dimensions include head and seat boards. If no head board, deduct 1/16" (17) in rough opening height.

Please consult your local Marvin representative for masonry openings that include casings and subsills.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

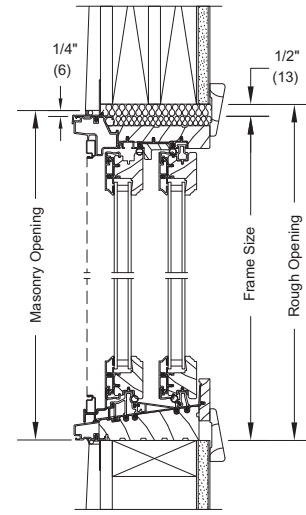
**GLIDER TRIPLE SASH - XOX**

|                 |                 |                 |                 |
|-----------------|-----------------|-----------------|-----------------|
| <b>MO (mm)</b>  | 6-0 (1829)      | 8-0 (2438)      | 10-0 (3048)     |
| <b>RO (mm)</b>  | 6-0 1/2 (1842)  | 8-0 1/2 (2451)  | 10-0 1/2 (3061) |
| <b>FS (mm)</b>  | 5-11 1/2 (1816) | 7-11 1/2 (2426) | 9-11 1/2 (3035) |
| <b>DLO (mm)</b> | 1-1 9/32 (337)  | 1-7 9/32 (490)  | 2-1 9/32 (642)  |

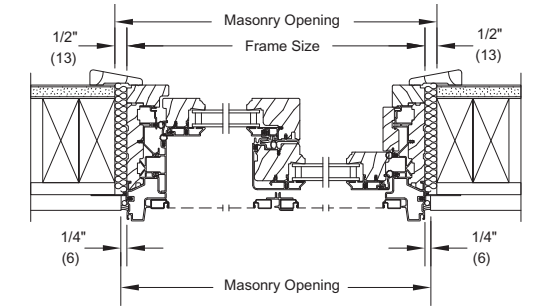
|                 |           |             |              |
|-----------------|-----------|-------------|--------------|
| 1-11 3/4 (603)  | UGLTS6020 | UGLTS8020   | UGLTS10020   |
| 2-0 (610)       |           |             |              |
| 2-5 3/4 (756)   | UGLTS6026 | UGLTS8026   | UGLTS10026   |
| 2-6 (762)       |           |             |              |
| 2-11 1/2 (902)  | UGLTS6030 | UGLTS8030   | UGLTS10030 E |
| 2-11 3/4 (908)  |           |             |              |
| 3-0 (914)       |           |             |              |
| 3-5 3/4 (1060)  | UGLTS6036 | UGLTS8036   | UGLTS10036 E |
| 3-5 1/2 (1054)  |           |             |              |
| 3-11 1/2 (1207) | UGLTS6040 | UGLTS8040 E | UGLTS10040 E |
| 3-11 3/4 (1213) |           |             |              |
| 4-0 (1219)      |           |             |              |
| 4-5 3/4 (1365)  | UGLTS6046 | UGLTS8046 E | UGLTS10046 E |
| 4-6 (1372)      |           |             |              |
| 4-11 1/2 (1511) | UGLTS6050 | UGLTS8050 E | UGLTS10050 E |
| 4-11 3/4 (1518) |           |             |              |
| 5-0 (1524)      |           |             |              |
| 5-5 3/4 (1670)  | UGLTS6056 | UGLTS8056 E | UGLTS10056 E |
| 5-6 (1676)      |           |             |              |
| 5-11 1/2 (1816) | UGLTS6060 | UGLTS8060 E | UGLTS10060 E |
| 5-11 3/4 (1822) |           |             |              |

**GLIDER - XOX**

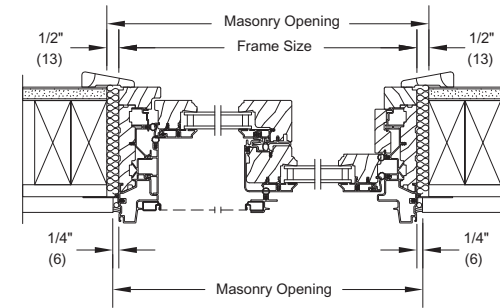
CONSTRUCTION DETAILS X, OX, XOX, AND OXXO



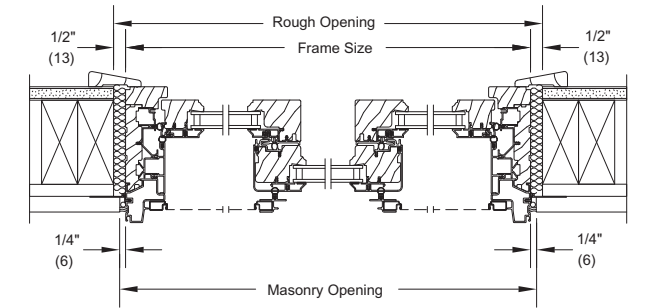
HEAD JAMB AND SILL - XO/OX, XOX



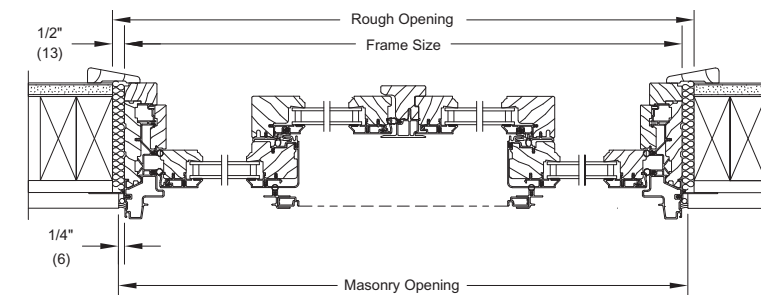
JAMB - XX



JAMB - XO



JAMB - XOX



JAMB - OXXO

Details and Elevations not to scale.  
 • Special sizes for OXXO only, available in equal sash only (1/4, 1/4, 1/4, 1/4)  
 E These windows meet national Egress codes for fire evacuation. Local codes may differ.

Please consult your local Marvin representative for more information.  
 For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

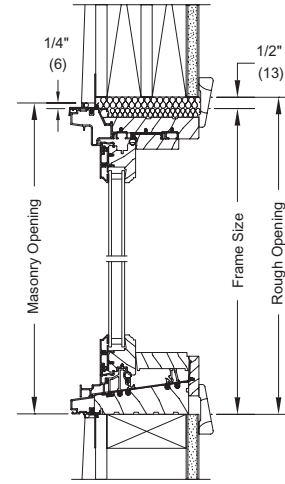
GLIDER PICTURE - O

|                 |                 |                  |                  |                   |                  |                   |                  |
|-----------------|-----------------|------------------|------------------|-------------------|------------------|-------------------|------------------|
| <b>MO (mm)</b>  | 3-0 (914)       | 3-6 (1067)       | 4-0 (1219)       | 4-6 (1372)        | 5-0 (1524)       | 5-6 (1676)        | 6-0 (1829)       |
| <b>RO (mm)</b>  | 3-0 1/2 (927)   | 3-6 1/2 (1080)   | 4-0 1/2 (1232)   | 4-6 1/2 (1384)    | 5-0 1/2 (1537)   | 5-6 1/2 (1689)    | 6-0 1/2 (1842)   |
| <b>FS (mm)</b>  | 2-11 1/2 (902)  | 3-5 1/2 (1054)   | 3-11 1/2 (1207)  | 4-5 1/2 (1359)    | 4-11 1/2 (1511)  | 5-5 1/2 (1664)    | 5-11 1/2 (1816)  |
| <b>DLO (mm)</b> | 2-4 63/64 (736) | 2-10 63/64 (888) | 3-4 63/64 (1041) | 3-10 63/64 (1193) | 4-4 63/64 (1346) | 4-10 63/64 (1498) | 5-4 63/64 (1650) |

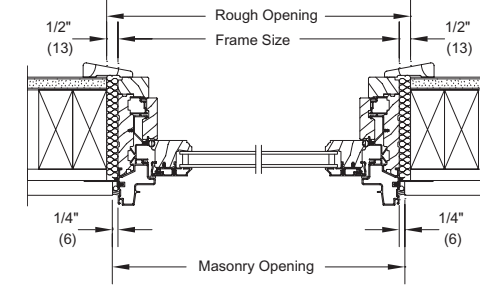
|  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|
| 1-11 3/4 (603)<br>2-0 (610)<br>1-11 1/2 (597)    |  |  |  |  |  |  |  |
| 2-5 3/4 (756)<br>2-6 (762)<br>2-5 1/2 (749)      |  |  |  |  |  |  |  |
| 2-11 3/4 (908)<br>3-0 (914)<br>2-11 1/2 (902)    |  |  |  |  |  |  |  |
| 3-5 3/4 (1060)<br>3-6 (1067)<br>3-5 1/2 (1054)   |  |  |  |  |  |  |  |
| 3-11 3/4 (1213)<br>4-0 (1219)<br>3-11 1/2 (1207) |  |  |  |  |  |  |  |
| 4-5 3/4 (1365)<br>4-6 (1372)<br>4-5 1/2 (1359)   |  |  |  |  |  |  |  |
| 4-11 3/4 (1518)<br>5-0 (1524)<br>4-11 1/2 (1511) |  |  |  |  |  |  |  |
| 5-5 3/4 (1670)<br>5-6 (1676)<br>5-5 1/2 (1664)   |  |  |  |  |  |  |  |
| 5-11 3/4 (1822)<br>6-0 (1829)<br>5-11 1/2 (1816) |  |  |  |  |  |  |  |

GLIDER PICTURE

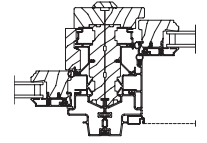
CONSTRUCTION DETAILS



HEAD JAMB AND SILL - PICTURE



JAMB - PICTURE



VERTICAL MULLION PICTURE/OPERATOR

MULTIPLE ASSEMBLY CONVERSIONS

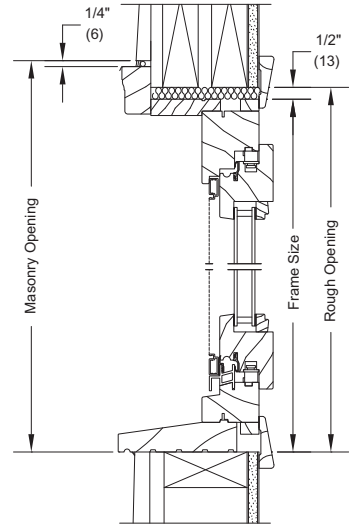
| ROUGH OPENING                    |                                | MASONRY OPENING WITHOUT BMC        |                               |
|----------------------------------|--------------------------------|------------------------------------|-------------------------------|
| Width                            | Height for 2H                  | Width                              | Height for 2H                 |
| Add all frame sizes plus 1" (25) | Add frame sizes plus 1/2" (13) | Add all frame sizes plus 1/2" (13) | Add frame sizes plus 1/4" (6) |

Details and Elevations not to scale.  
 • XO, OX, XX, XOX, and O available. Both sides of triple sash units operate.  
 • Conversions for horizontal mulls include required structural 1" (25) LVL  
 Please consult your local Marvin representative for additional mulling configurations.  
 For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

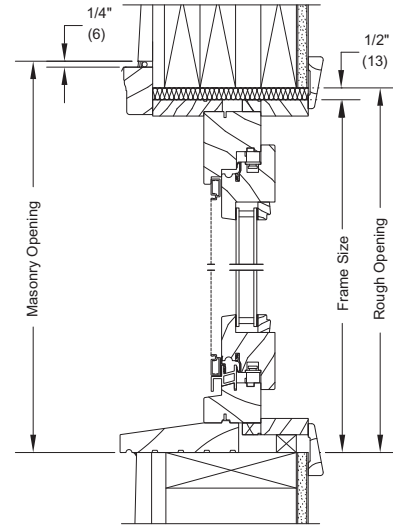
Ultimate Glider Picture: UGLP

**WOOD TILT TURN / WOOD TILT TURN INSWING CASEMENT / WOOD TILT TURN HOPPER**

**CONSTRUCTION DETAILS**

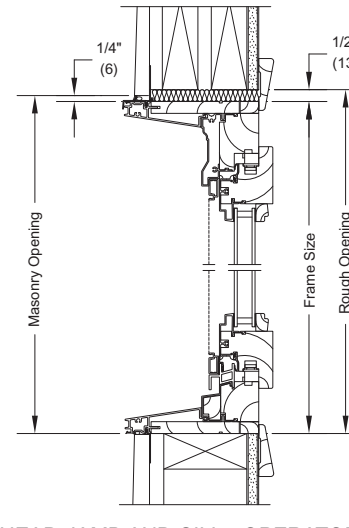


**HEAD JAMB AND SILL - OPERATOR  
2X4 FRAME CONSTRUCTION**

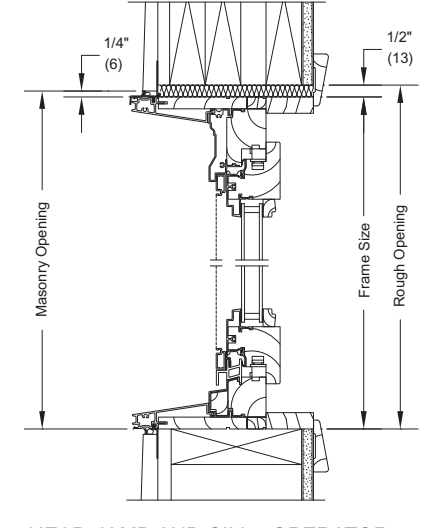


**HEAD JAMB AND SILL - OPERATOR  
2X6 FRAME CONSTRUCTION**

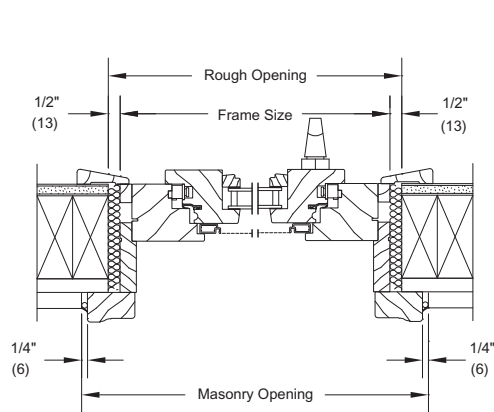
**TILT TURN / TILT TURN INSWING CASEMENT / TILT TURN HOPPER**  
**CONSTRUCTION DETAILS**



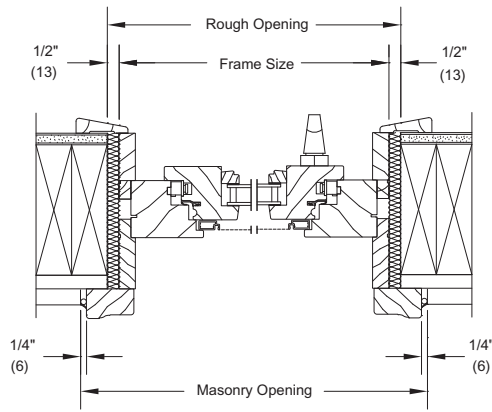
**HEAD JAMB AND SILL - OPERATOR  
2X4 FRAME CONSTRUCTION**



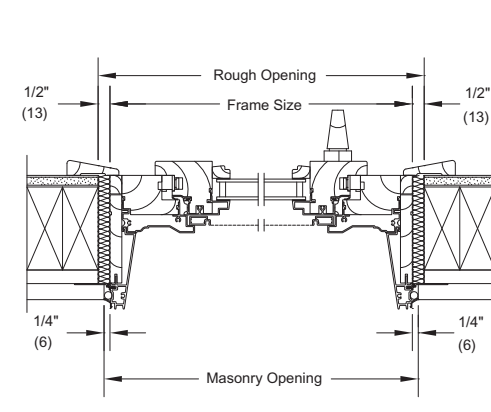
**HEAD JAMB AND SILL - OPERATOR  
2X6 FRAME CONSTRUCTION**



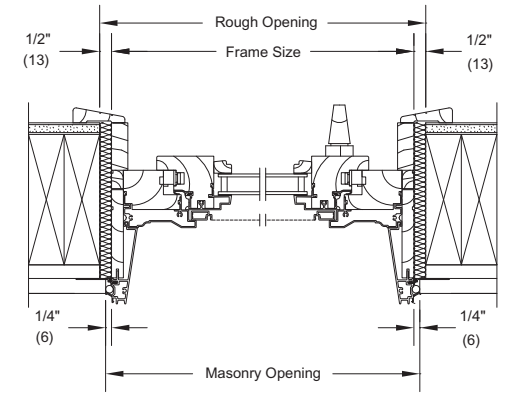
**JAMB - OPERATOR  
2X4 FRAME CONSTRUCTION**



**JAMB - OPERATOR  
2X6 FRAME CONSTRUCTION**



**JAMB - OPERATOR  
2X4 FRAME CONSTRUCTION**



**JAMB - OPERATOR  
2X6 FRAME CONSTRUCTION**

Details and Elevations not to scale.

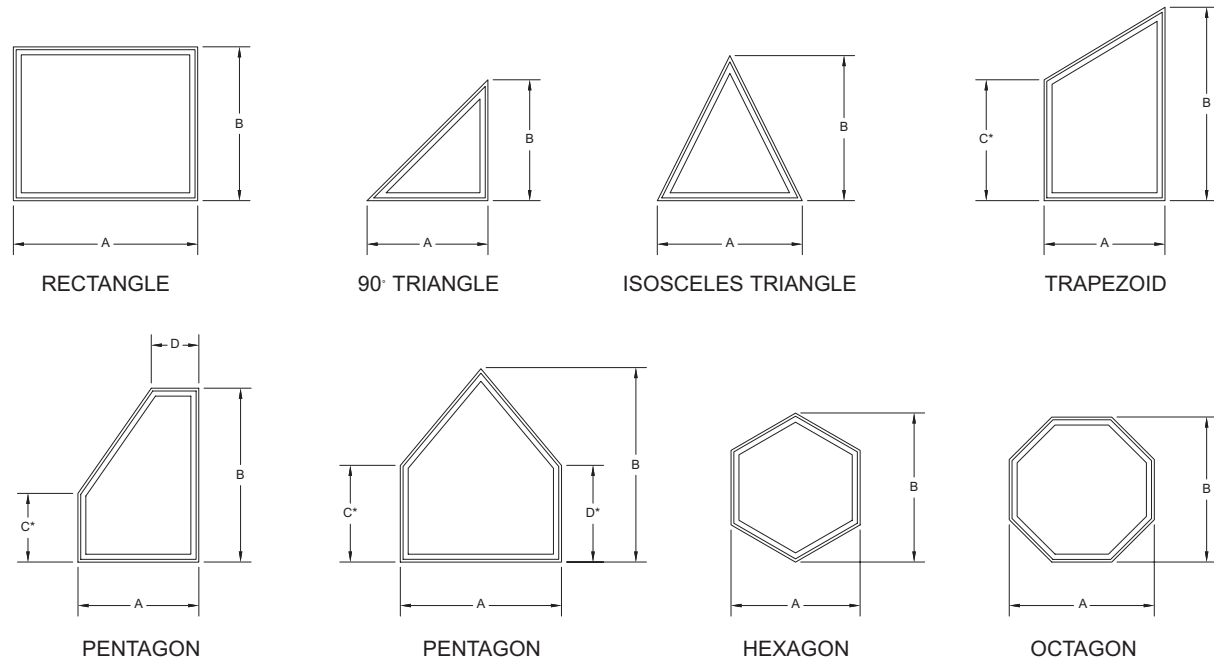
Please consult your local Marvin representative for more information.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

## WOOD / CLAD POLYGONS AND SPECIAL SHAPES

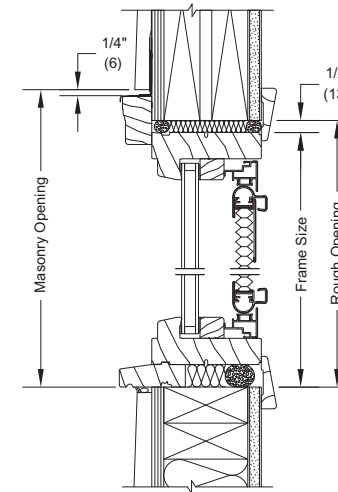
### HOW TO SPECIFY DIMENSIONS

When ordering a trapezoid, triangle, or rectangle window, provide a sketch of the unit as viewed from the exterior, plus include key rough opening dimensions. Example: To order a window of a trapezoid opening, provide the measurements of A, B, and C as indicated. For other shapes, give the dimensions shown.

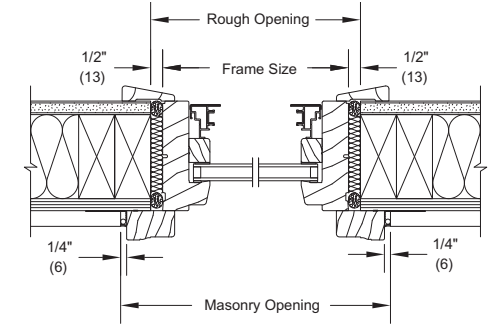


## WOOD DIRECT GLAZE POLYGON / DIRECT GLAZE POLYGON

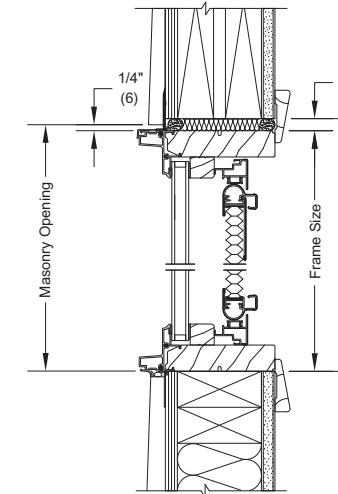
### CONSTRUCTION DETAILS



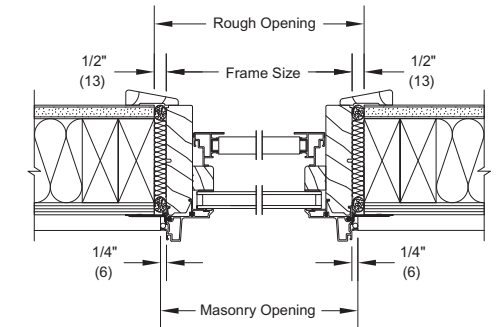
WOOD HEAD JAMB AND SILL - DIRECT GLAZE WITH OPTIONAL INTERIOR SHADE



WOOD JAMB - DIRECT GLAZE WITH SHADE



CLAD HEAD JAMB AND SILL - DIRECT GLAZE WITH INTERIOR SHADE



CLAD JAMB - DIRECT GLAZE WITH SHADE

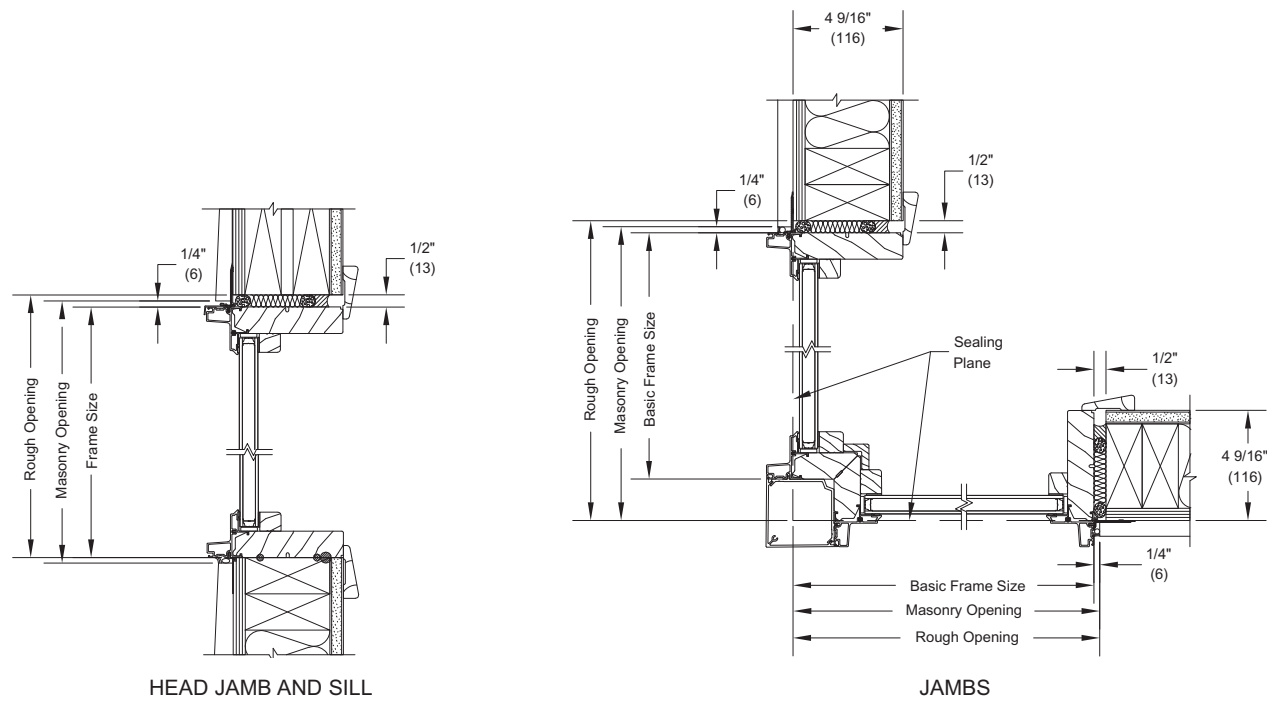
Details and Elevations not to scale.

- Jamb extensions over 7 9/16" (192) will be edge glued.
- Some shapes shown are also available as in-sash. Check with local Marvin representative for availability.
- Please contact local Marvin representative for assistance if multiple special shape units are aligned with other units. Rough opening dimensions may vary.
- 6" (152) minimum rough opening height.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

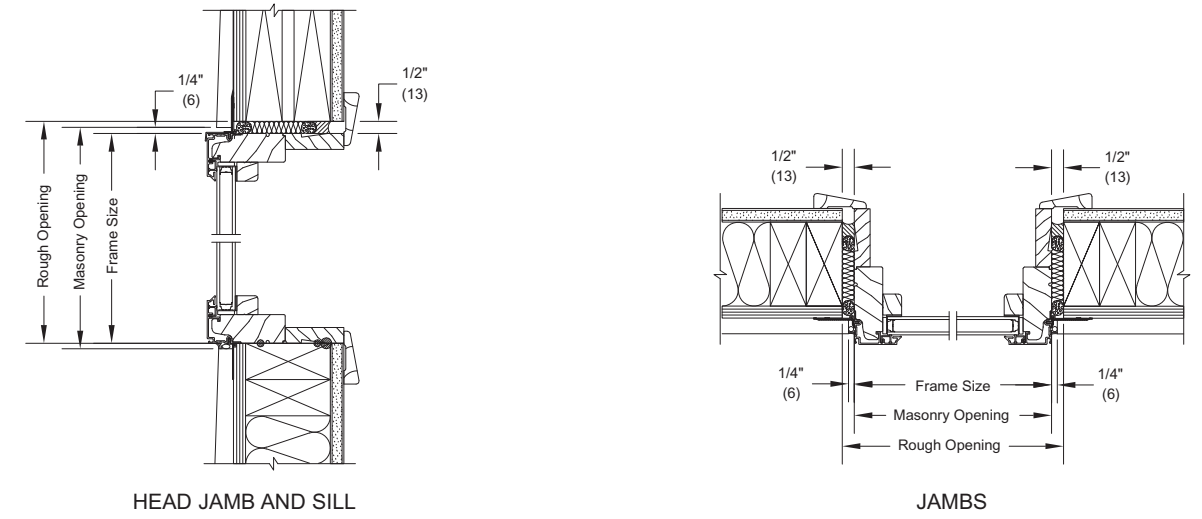
## DIRECT GLAZE POLYGON CORNER

### CONSTRUCTION DETAILS



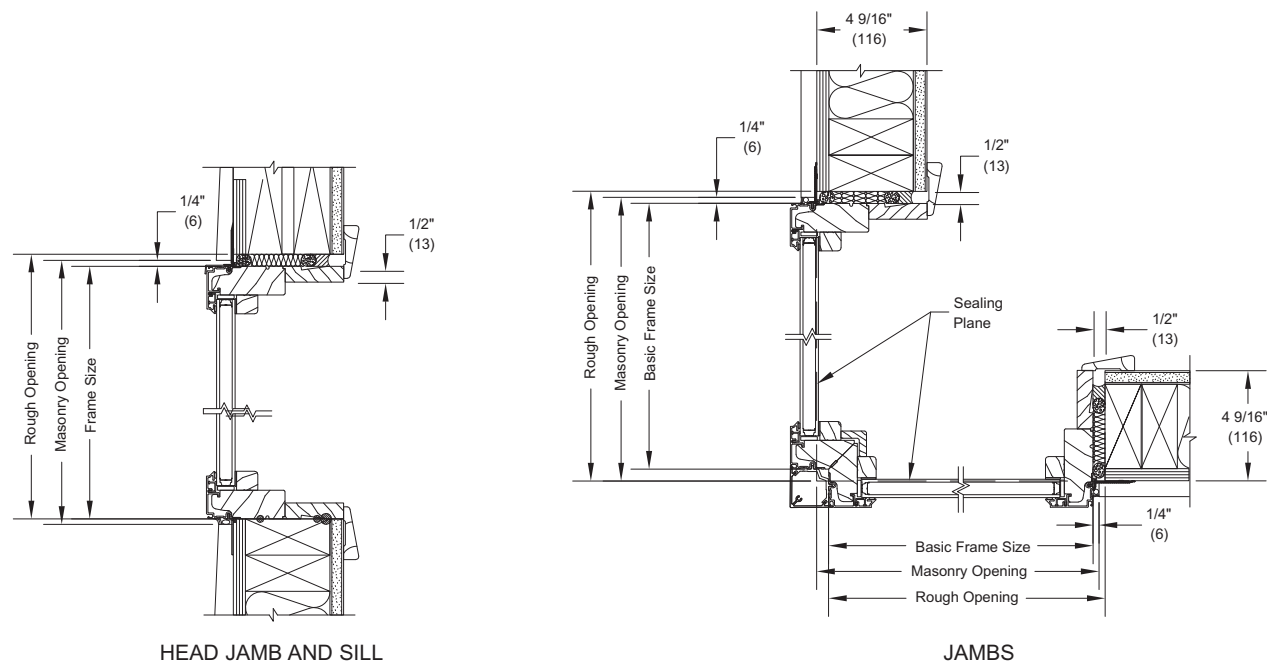
## DIRECT GLAZE NARROW FRAME POLYGON

### CONSTRUCTION DETAILS



## DIRECT GLAZE NARROW FRAME CORNER

### CONSTRUCTION DETAILS

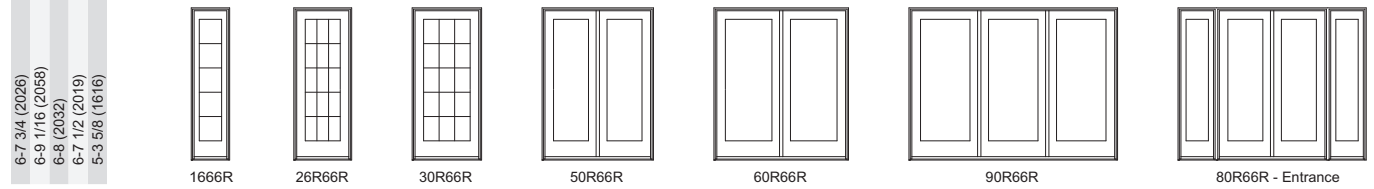


Details and Elevations not to scale.  
 Please consult your local Marvin representative for additional mulling configurations.  
 For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

# 1 3/4" INSWING / OUTSWING FRENCH DOOR

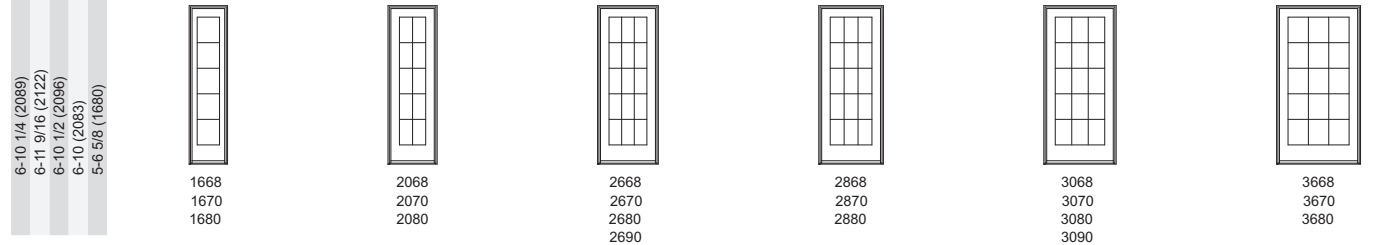
6-6R HEIGHT

|                     |                  |                 |                 |                 |                 |                 |                                |
|---------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------------------------|
| <b>Clad MO (mm)</b> | 1-8 11/32 (517)  | 2-7 1/8 (791)   | 3-1 1/8 (943)   | 4-11 1/2 (1511) | 5-11 1/2 (1816) | 8-9 7/8 (2689)  | 7-10 11/16 (2405)              |
| <b>Wood MO (mm)</b> | 1-10 31/32 (583) | 2-9 3/4 (857)   | 3-3 3/4 (1010)  | 5-2 1/8 (1578)  | 6-2 1/8 (1883)  | 9-0 1/2 (2756)  | 8-1 5/16 (2472)                |
| <b>RO (mm)</b>      | 1-8 27/32 (529)  | 2-7 5/8 (803)   | 3-1 5/8 (956)   | 5-0 (1524)      | 6-0 (1829)      | 8-10 3/8 (2702) | 7-11 3/16 (2418)               |
| <b>FS (mm)</b>      | 1-7 27/32 (504)  | 2-6 5/8 (778)   | 3-0 5/8 (930)   | 4-11 (1499)     | 5-11 (1803)     | 8-9 3/8 (2677)  | 7-10 3/16 (2392)               |
| <b>DLO (mm)</b>     | 0-11 1/2 (292)   | 1-6 25/32 (477) | 2-0 25/32 (629) | 1-6 25/32 (477) | 2-0 25/32 (629) | 2-0 25/32 (629) | 0-1 1/2 (292) / 1-625/32 (477) |

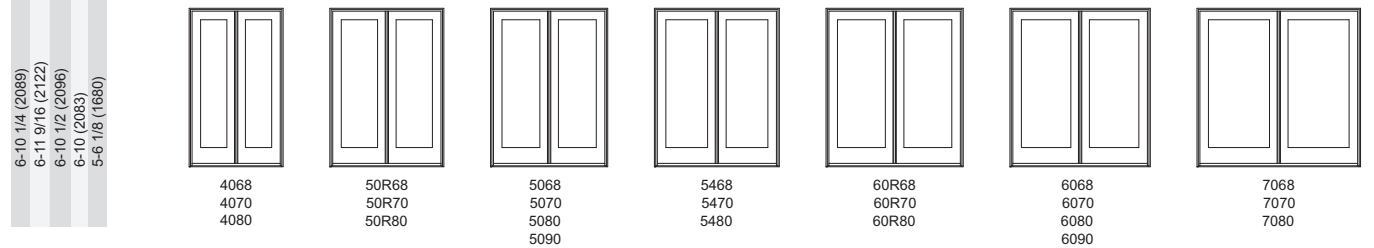


6-8 HEIGHT (7-0, 8-0 AND 9-0 HEIGHTS SEE BELOW)

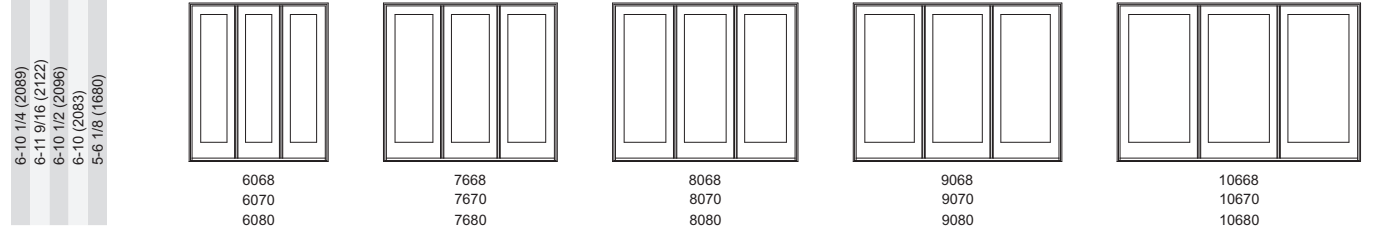
|                     |                  |                  |                 |                 |                 |                  |
|---------------------|------------------|------------------|-----------------|-----------------|-----------------|------------------|
| <b>Clad MO (mm)</b> | 1-8 11/32 (517)  | 2-1 15/16 (659)  | 2-7 15/16 (811) | 2-9 15/16 (862) | 3-1 15/16 (946) | 3-7 15/16 (1116) |
| <b>Wood MO (mm)</b> | 1-10 31/32 (583) | 2-4 9/16 (726)   | 2-10 9/16 (878) | 3-0 9/16 (929)  | 3-4 9/16 (1030) | 3-10 9/16 (1183) |
| <b>RO (mm)</b>      | 1-8 27/32 (529)  | 2-2 7/16 (672)   | 2-8 7/16 (824)  | 2-10 7/16 (875) | 3-2 7/16 (976)  | 3-8 7/16 (1129)  |
| <b>FS (mm)</b>      | 1-7 27/32 (504)  | 2-1 7/16 (646)   | 2-7 7/16 (799)  | 2-9 7/16 (849)  | 3-1 7/16 (951)  | 3-7 7/16 (1103)  |
| <b>DLO (mm)</b>     | 0-11 1/2 (292)   | 11-1 19/32 (345) | 1-7 19/32 (498) | 1-9 19/32 (548) | 2-1 19/32 (650) | 2-7 19/32 (802)  |



|                     |                 |                 |                 |                 |                 |                 |                 |
|---------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| <b>Clad MO (mm)</b> | 4-1 1/8 (1248)  | 4-11 1/2 (1511) | 5-1 1/8 (1553)  | 5-5 1/8 (1654)  | 5-11 1/2 (1816) | 6-1 1/8 (1857)  | 7-1 1/8 (2162)  |
| <b>Wood MO (mm)</b> | 4-3 3/4 (1314)  | 5-2 1/8 (1578)  | 5-3 3/4 (1619)  | 5-7 3/4 (1721)  | 6-2 1/8 (1883)  | 6-3 3/4 (1924)  | 7-3 3/4 (2229)  |
| <b>RO (mm)</b>      | 4-1 5/8 (1260)  | 5-0 (1524)      | 5-1 5/8 (1565)  | 5-5 5/8 (1667)  | 6-0 (1829)      | 6-1 5/8 (1870)  | 7-1 5/8 (2175)  |
| <b>FS (mm)</b>      | 4-0 5/8 (1235)  | 4-11 (1499)     | 5-0 5/8 (1540)  | 5-4 5/8 (1641)  | 5-11 (1803)     | 6-0 5/8 (1845)  | 7-0 5/8 (2149)  |
| <b>DLO (mm)</b>     | 1-1 19/32 (345) | 1-6 25/32 (477) | 1-7 19/32 (498) | 1-9 19/32 (548) | 2-0 25/32 (629) | 2-1 19/32 (650) | 2-7 19/32 (802) |



|                     |                   |                  |                   |                   |                   |
|---------------------|-------------------|------------------|-------------------|-------------------|-------------------|
| <b>Clad MO (mm)</b> | 6-0 5/16 (1837)   | 7-6 5/16 (2294)  | 8-0 5/16 (2446)   | 9-0 5/16 (2751)   | 10-6 5/16 (3208)  |
| <b>Wood MO (mm)</b> | 6-2 15/16 (1903)  | 7-8 15/16 (2361) | 8-2 15/16 (2513)  | 9-2 15/16 (2818)  | 10-8 15/16 (3275) |
| <b>RO (mm)</b>      | 6-0 13/16 (1849)  | 7-6 13/16 (2307) | 8-0 13/16 (2459)  | 9-0 13/16 (2764)  | 10-6 13/16 (3221) |
| <b>FS (mm)</b>      | 5-11 13/16 (1824) | 7-5 13/16 (2281) | 7-11 13/16 (2434) | 8-11 13/16 (2738) | 10-5 13/16 (3196) |
| <b>DLO (mm)</b>     | 1-1 19/32 (345)   | 1-7 19/32 (498)  | 1-9 19/32 (582)   | 2-1 19/32 (650)   | 2-7 19/32 (802)   |



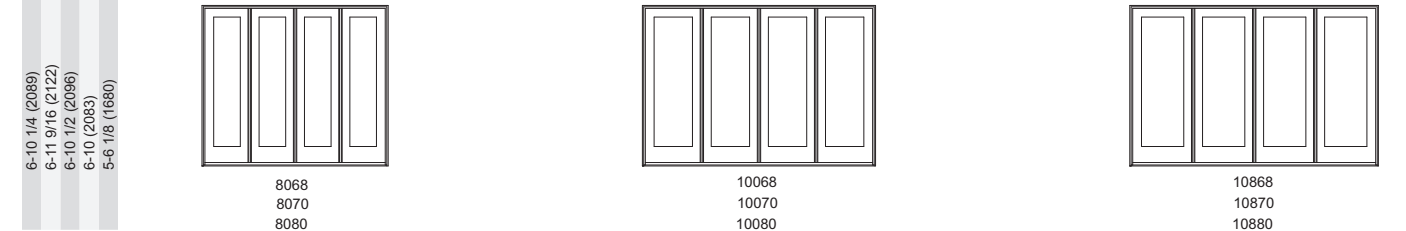
- Ultimate Inswing French Door: UIFD
- Ultimate Outswing French Door: UOFD
- Ultimate Wood Inswing French Door: UWIFD
- Ultimate Wood Outswing French Door: UWOFD

| 7-0, 8-0 AND 9-0 HEIGHTS: |                 |                 |                 |
|---------------------------|-----------------|-----------------|-----------------|
|                           | 7-0 Height      | 8-0 Height      | 9-0 Height      |
| Clad MO (mm)              | 7-2 1/4 (2191)  | 7-11 3/4 (2432) | 8-11 3/4 (2737) |
| Wood MO (mm)              | 7-3 9/16 (2224) | 8-1 1/16 (2465) | N/A             |
| RO (mm)                   | 7-2 1/2 (2197)  | 8-0 (2438)      | 9-0 (2743)      |
| FS (mm)                   | 7-2 (2184)      | 7-11 1/2 (2426) | 8-11 1/2 (2731) |
| DLO (mm)                  | 5-10 1/8 (1781) | 6-7 5/8 (2022)  | 7-7 5/8 (2327)  |

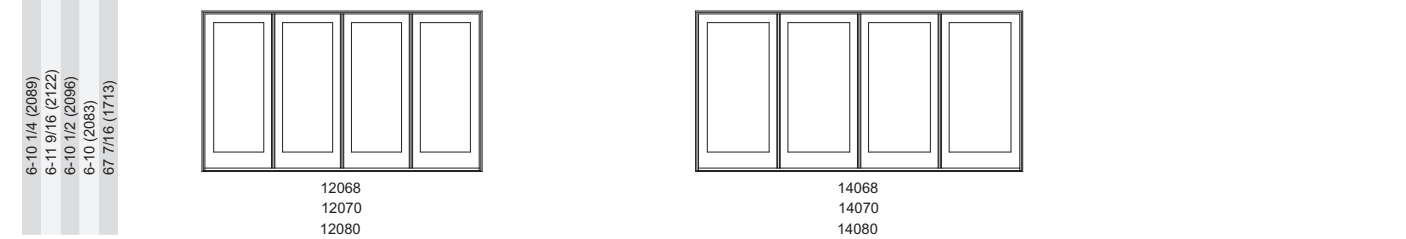
# 1 3/4" INSWING / OUTSWING FRENCH DOOR

6-8 HEIGHT (7-0 AND 8-0 HEIGHTS SEE BELOW)

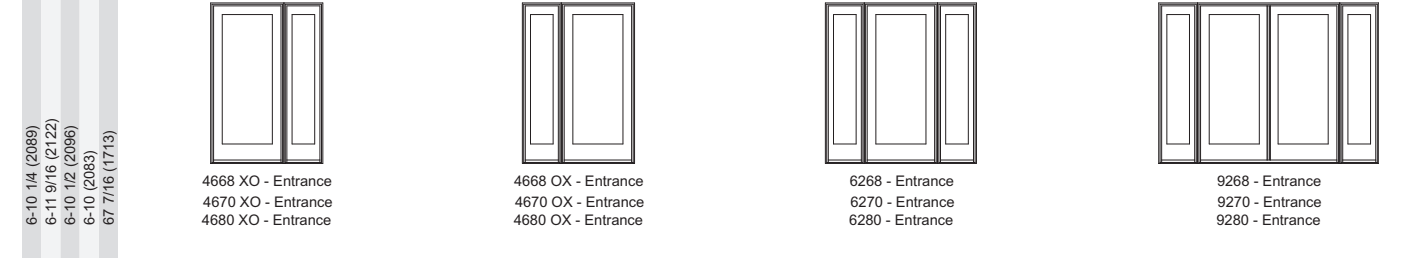
|                     |                 |                 |                  |
|---------------------|-----------------|-----------------|------------------|
| <b>Clad MO (mm)</b> | 7-11 1/2 (2426) | 9-11 1/2 (3035) | 10-7 1/2 (3239)  |
| <b>Wood MO (mm)</b> | 8-2 1/8 (2492)  | 10-2 1/8 (3102) | 10-10 1/8 (3305) |
| <b>RO (mm)</b>      | 8-0 (2438)      | 10-0 (3048)     | 10-8 (3251)      |
| <b>FS (mm)</b>      | 7-11 (2413)     | 9-11 (3023)     | 10-7 (3226)      |
| <b>DLO (mm)</b>     | 1-1 19/32 (345) | 1-7 19/32 (498) | 1-9 19/32 (548)  |



|                     |                  |                  |
|---------------------|------------------|------------------|
| <b>Clad MO (mm)</b> | 11-11 1/2 (3645) | 13-11 1/2 (4255) |
| <b>Wood MO (mm)</b> | 12-2 1/8 (3712)  | 14-2 1/8 (4321)  |
| <b>RO (mm)</b>      | 12-0 (3658)      | 14-0 (4267)      |
| <b>FS (mm)</b>      | 11-11 (3632)     | 13-11 (4242)     |
| <b>DLO (mm)</b>     | 2-1 19/32 (650)  | 2-7 19/32 (802)  |



|                     |                                  |                                  |  |   |
|---------------------|----------------------------------|----------------------------------|--|---|
| <b>Clad MO (mm)</b> | 4-7 9/16 (1411)                  | 4-7 9/16 (1411)                  | 6-1 1/8 (1857)                                     | 9-0 5/16 (2751)                                   |
| <b>Wood MO (mm)</b> | 4-10 3/16 (1478)                 | 4-10 3/16 (1478)                 | 6-3 3/4 (1924)                                     | 9-2 5/16 (2802)                                   |
| <b>RO (mm)</b>      | 4-8 1/16 (1424)                  | 4-8 1/16 (1424)                  | 6-1 5/8 (1870)                                     | 9-0 13/16 (2764)                                  |
| <b>FS (mm)</b>      | 4-7 1/16 (1399)                  | 4-7 1/16 (1399)                  | 6-0 5/8 (1845)                                     | 8-11 13/16 (2739)                                 |
| <b>DLO (mm)</b>     | 2-1 19/32 (650) / 0-11 1/2 (292) | 0-11 1/2 (292) / 2-1 19/32 (650) | 2-1 19/32 (650) / 0-11 1/2 (292) / 2-1 19/32 (650) | 0-11 1/2 (292) / 2-1 19/32 (650) / 0-11 1/2 (292) |



Details and Elevations not to scale.

R = Retro Size

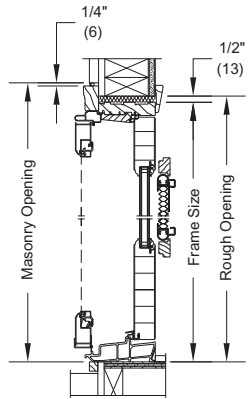
- Lite patterns shown are for standard, SDL and ADL in 6-6, 6-8, and 7-0 heights. The standard pattern for 8-0 heights is a 6 high lite cut. Standard lite cut for 9-0 height is a 7 high lite cut.
- All glass is tempered.
- Elevations as viewed from the exterior.
- CN 9-0 heights are limited to 1 and 2 wide configurations using CN2-6 and 3-0 panels.

Please consult your local Marvin representative for masonry openings that include casings and subsills.

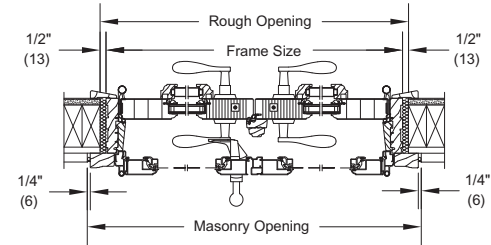
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

# 1 3/4" WOOD INSWING FRENCH DOOR

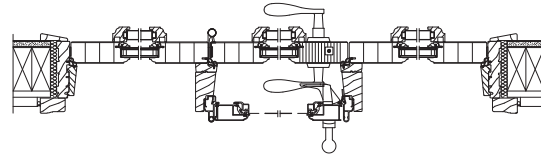
## CONSTRUCTION DETAILS



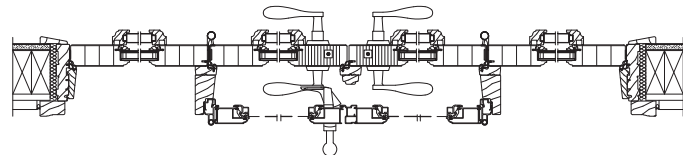
WOOD HEAD JAMB AND SILL WITH ULTIMATE SWINGING SCREEN - WITH OPTIONAL INTERIOR SHADES



WOOD 2 PANEL JAMB XX LHI WITH ULTIMATE SWINGING SCREEN - WITH OPTIONAL INTERIOR SHADES



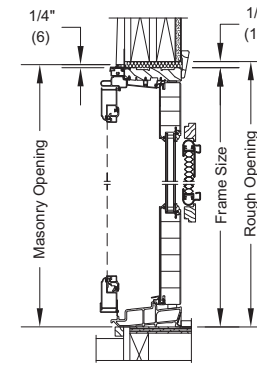
WOOD 3 PANEL JAMB OXO LHI WITH ULTIMATE SWINGING SCREEN - WITH OPTIONAL INTERIOR SHADES



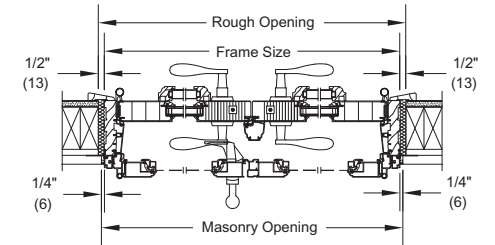
WOOD 4 PANEL JAMB OXXO LHI WITH ULTIMATE SWINGING SCREEN - WITH OPTIONAL INTERIOR SHADES

# 1 3/4" INSWING FRENCH DOOR

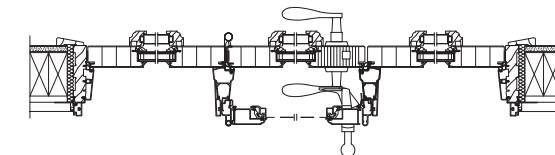
## CONSTRUCTION DETAILS



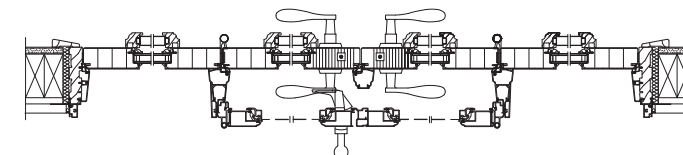
CLAD HEAD JAMB AND SILL WITH ULTIMATE SWINGING SCREEN - WITH OPTIONAL INTERIOR SHADES



CLAD 2 PANEL JAMB XX LHI WITH ULTIMATE SWINGING SCREEN - WITH INTERIOR SHADES



CLAD 3 PANEL JAMB OXO LHI WITH ULTIMATE SWINGING SCREEN - WITH INTERIOR SHADES



CLAD 4 PANEL JAMB OXXO LHI WITH ULTIMATE SWINGING SCREEN - WITH INTERIOR SHADES

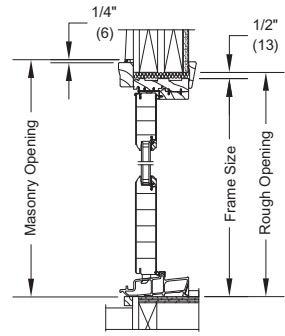
Details and Elevations not to scale.

Please consult your local Marvin representative for more information.

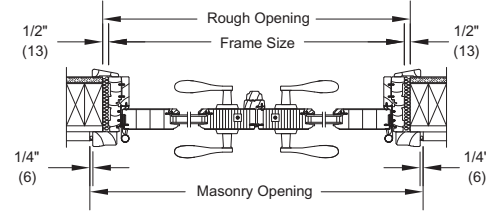
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

# 1 3/4" WOOD OUTSWING FRENCH DOOR

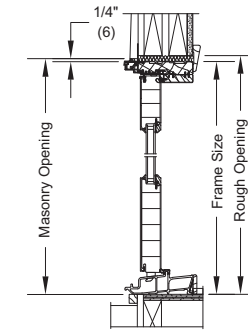
## CONSTRUCTION DETAILS



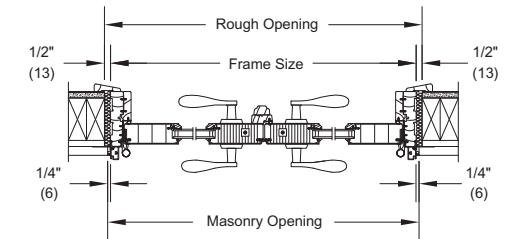
WOOD HEAD JAMB AND SILL



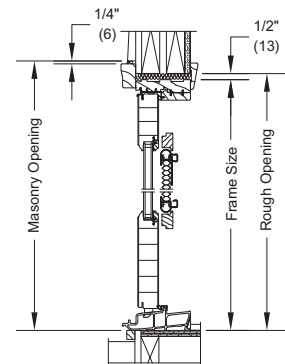
WOOD 2 PANEL JAMB  
XX LHO



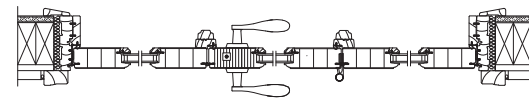
CLAD HEAD JAMB AND SILL



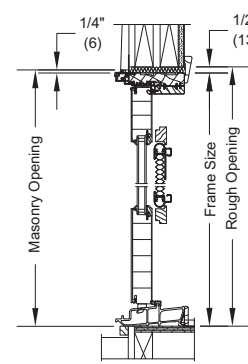
CLAD 2 PANEL JAMB  
XX LHO



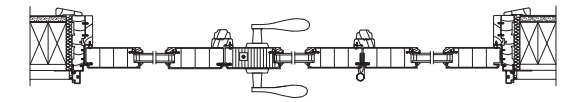
WOOD HEAD JAMB AND SILL  
WITH INTERIOR SHADES



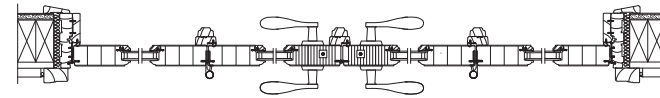
WOOD 3 PANEL JAMB  
OXO LHO



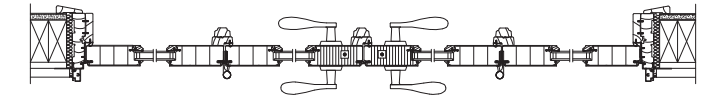
CLAD HEAD JAMB AND SILL  
WITH INTERIOR SHADES



CLAD 3 PANEL JAMB  
OXO LHO



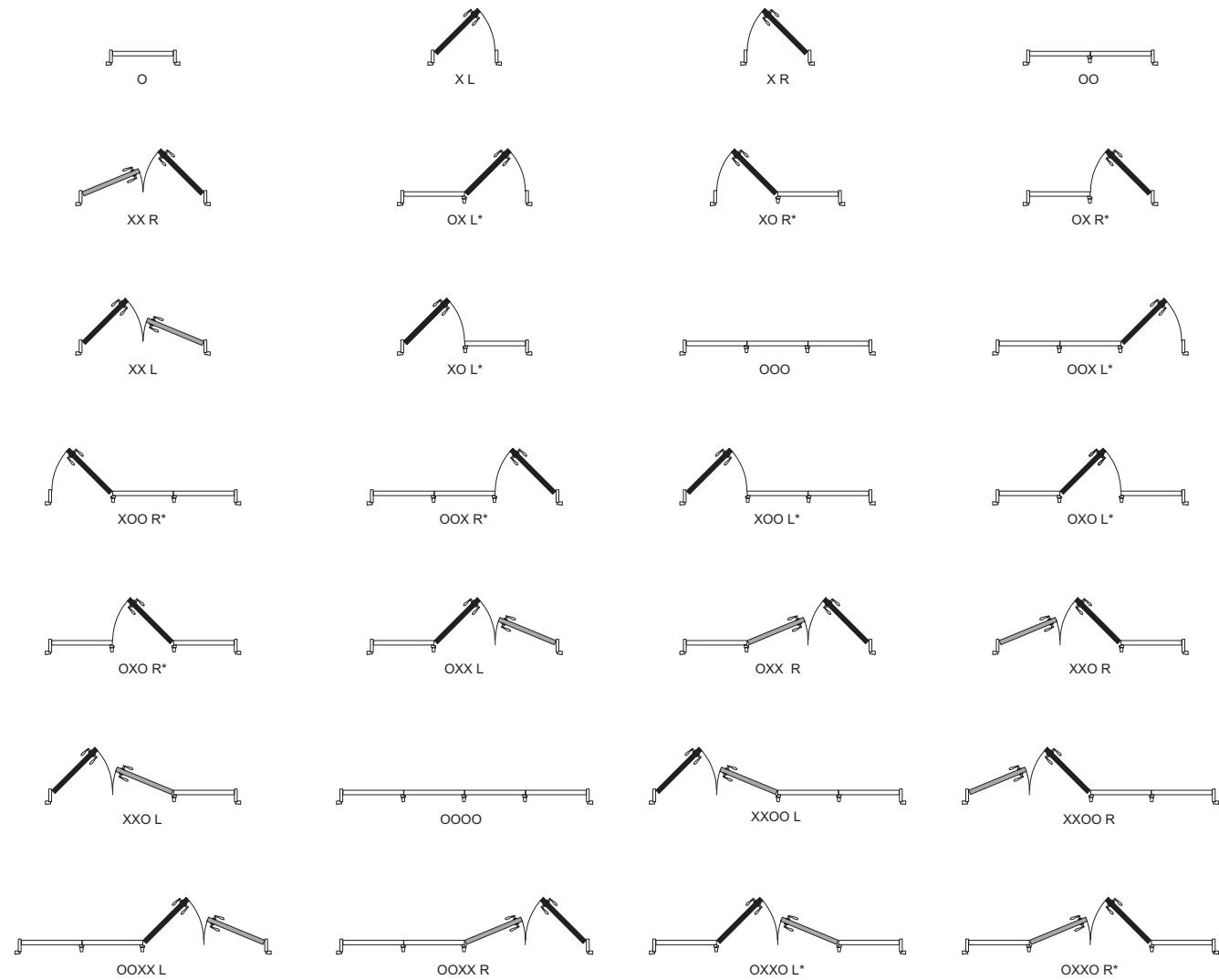
WOOD 4 PANEL JAMB  
OXXO LHO



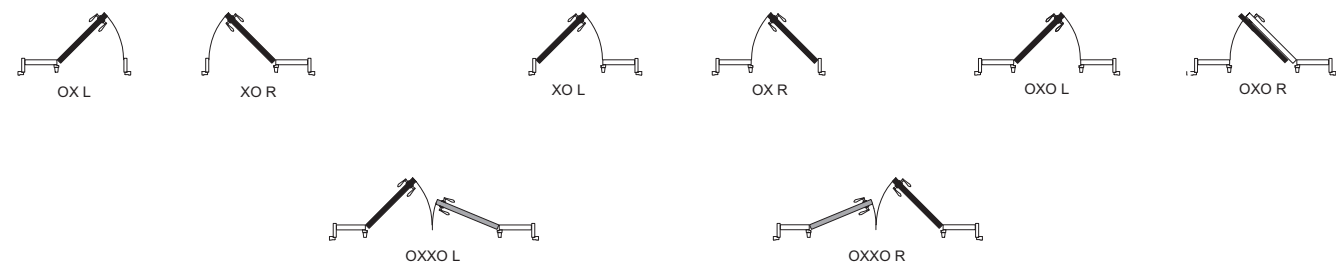
CLAD 4 PANEL JAMB  
OXXO LHO

Details and Elevations not to scale.  
Please consult your local Marvin representative for more information.  
For further details and drawings visit the 'Tools and Documents' section  
at Marvin.com.

## INSWING OPERATING CONFIGURATIONS

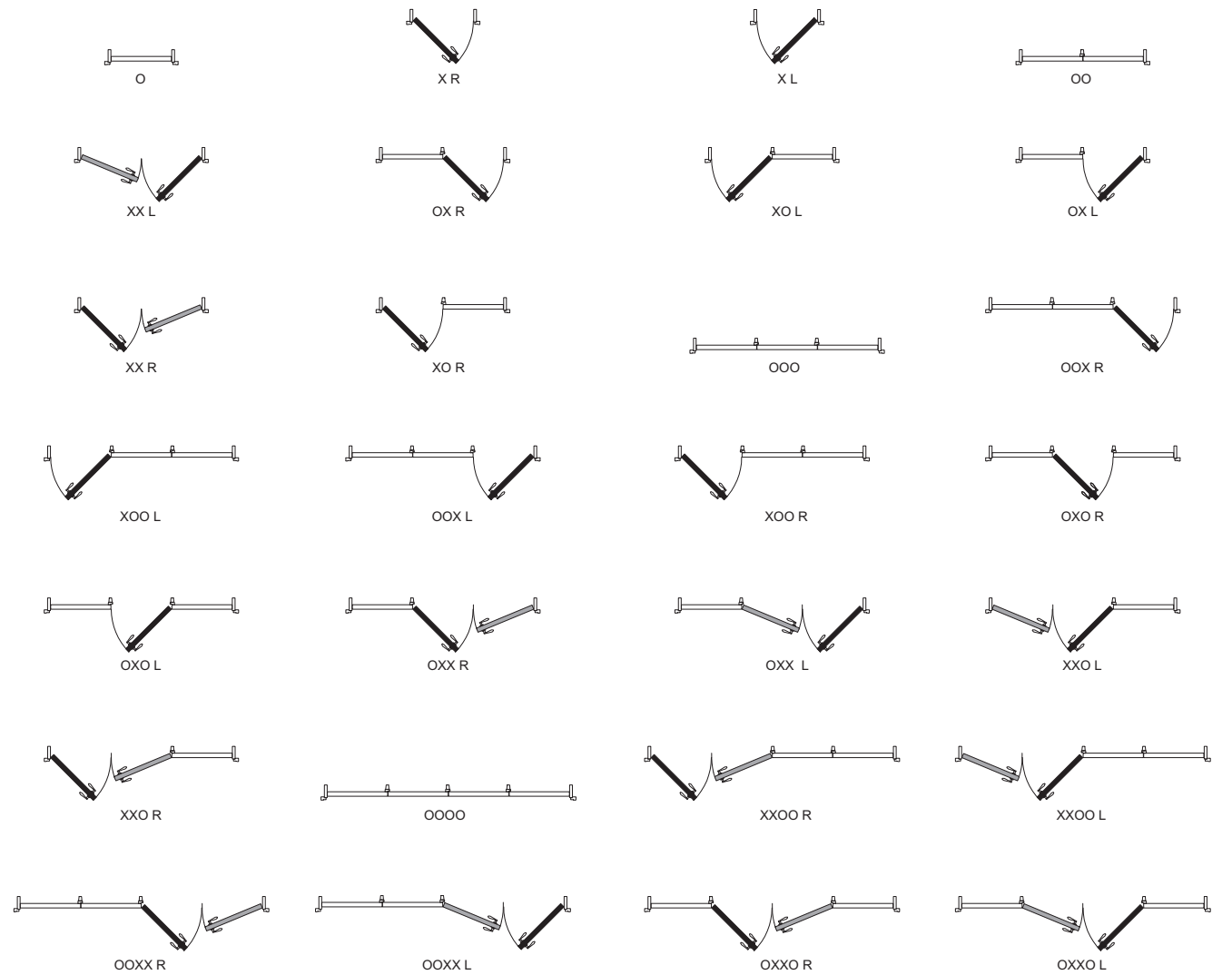


### ENTRANCE SYSTEMS

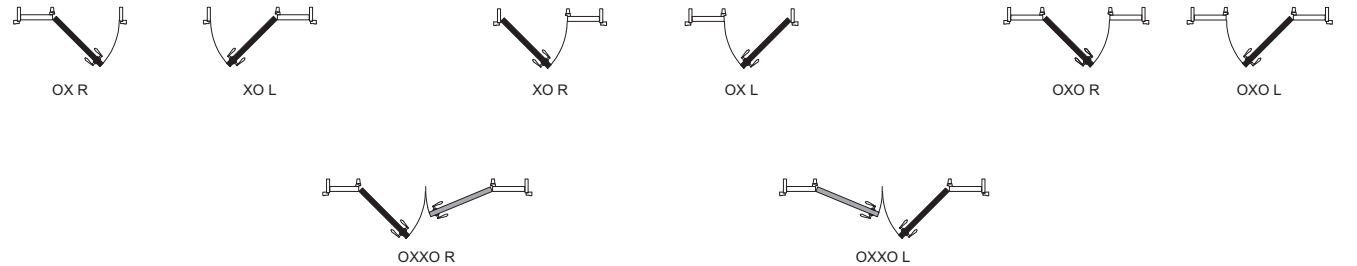


- Stationary Panel
- Active Panel
- Inactive Panel

## OUTSWING OPERATING CONFIGURATIONS



### ENTRANCE SYSTEMS










- Stationary Panel
- Active Panel
- Inactive Panel

Details and Elevations not to scale.  
 O: STATIONARY X: OPERATING L: LEFT HAND R: RIGHT HAND  
 • Wood doors are available with Wood combo/storm and screens, contact your local Marvin representative.  
 • Available with sliding top hung aluminum screen.  
 Please consult your local Marvin representative for more information.  
 For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

## 1 3/4" INSWING / OUTSWING FRENCH DOOR TRANSOMS

1 FRAME 1 SASH 1/6 HEIGHT (2/0 AND 2/6 HEIGHTS SEE BELOW)

|                     |                  |                 |                 |                 |                 |                  |                 |
|---------------------|------------------|-----------------|-----------------|-----------------|-----------------|------------------|-----------------|
| <b>Clad MO (mm)</b> | 1-8 11/32 (517)  | 2-1 15/16 (659) | 2-7 15/16 (811) | 2-9 15/16 (862) | 3-1 15/16 (964) | 3-7 15/16 (1116) | 4-1 1/8 (1248)  |
| <b>Wood MO (mm)</b> | 1-10 31/32 (583) | 2-4 9/16 (725)  | 2-10 9/16 (878) | 3-0 9/16 (929)  | 3-4 9/16 (1030) | 3-10 9/16 (1183) | 4-3 3/4 (1314)  |
| <b>RO (mm)</b>      | 1-8 27/32 (529)  | 2-2 7/16 (672)  | 2-8 7/16 (824)  | 2-10 7/16 (875) | 3-2 7/16 (976)  | 3-8 7/16 (1129)  | 4-1 5/8 (1260)  |
| <b>FS (mm)</b>      | 1-7 27/32 (504)  | 2-1 7/16 (646)  | 2-7 7/16 (799)  | 2-9 7/16 (849)  | 3-1 7/16 (951)  | 3-7 7/16 (1103)  | 4-0 5/8 (1235)  |
| <b>DLO (mm)</b>     | 0-11 1/2 (292)   | 1-1 19/32 (345) | 1-7 19/32 (498) | 1-9 19/32 (548) | 2-1 19/32 (650) | 2-7 19/32 (802)  | 3-0 25/32 (934) |






|  |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|
| 1-6 1/4 (464)<br>1-8 1/4 (514)<br>1-6 1/2 (470)<br>1-6 (457)<br>0-9 5/16 (237) |  |  |  |  |  |  |  |
|  | 1616  | 2016  | 2616  | 2816  | 3016  | 3616  | 4016  |
|  | 1620  | 2020  | 2620  | 2820  | 3020  | 3620  | 4020  |
|  | 1626  | 2026  | 2626  | 2826  | 3026  | 3626  | 4026  |

|                     |                  |                  |                  |                  |
|---------------------|------------------|------------------|------------------|------------------|
| <b>Clad MO (mm)</b> | 5-1 1/8 (1553)   | 5-5 1/8 (1654)   | 6-1 1/8 (1857)   | 7-1 1/8 (2162)   |
| <b>Wood MO (mm)</b> | 5-3 3/4 (1619)   | 5-7 3/4 (1721)   | 6-3 3/4 (1924)   | 7-3 3/4 (2229)   |
| <b>RO (mm)</b>      | 5-1 5/8 (1565)   | 5-5 5/8 (1667)   | 6-1 5/8 (1870)   | 7-1 5/8 (2175)   |
| <b>FS (mm)</b>      | 5-0 5/8 (1540)   | 5-4 5/8 (1641)   | 6-0 5/8 (1845)   | 7-0 5/8 (2149)   |
| <b>DLO (mm)</b>     | 4-0 25/32 (1239) | 4-4 25/32 (1341) | 5-0 25/32 (1544) | 6-0 25/32 (1849) |

|  |   |   |   |   |
|--|---|---|---|---|
| 1-6 1/4 (464)<br>1-8 1/4 (514)<br>1-6 1/2 (470)<br>1-6 (457)<br>0-9 5/16 (237) |  |  |  |  |
|  | 5016  | 5416  | 6016  | 7016  |
|  | 5020  | 5420  | 6020  | 7020  |
|  | 5026  | 5426  | 6026  | 7026  |

1 FRAME 2 SASH 1/6 HEIGHT (2/0 AND 2/6 HEIGHTS SEE BELOW)

|                     |                 |                 |                 |                 |                 |
|---------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| <b>Clad MO (mm)</b> | 4-1 1/8 (1248)  | 5-1 1/8 (1553)  | 5-5 1/8 (1654)  | 6-1 1/8 (1857)  | 7-1 1/8 (2162)  |
| <b>Wood MO (mm)</b> | 4-3 3/4 (1314)  | 5-3 3/4 (1619)  | 5-7 3/4 (1721)  | 6-3 3/4 (1924)  | 7-3 3/4 (2229)  |
| <b>RO (mm)</b>      | 4-1 5/8 (1260)  | 5-1 5/8 (1565)  | 5-5 5/8 (1667)  | 6-1 5/8 (1870)  | 7-1 5/8 (2175)  |
| <b>FS (mm)</b>      | 4-0 5/8 (1235)  | 5-0 5/8 (1540)  | 5-4 5/8 (1641)  | 6-0 5/8 (1845)  | 7-0 5/8 (2149)  |
| <b>DLO (mm)</b>     | 1-1 19/32 (345) | 1-7 19/32 (498) | 1-9 19/32 (548) | 2-1 19/32 (650) | 2-7 19/32 (802) |

|  |   |   |   |  |   |
|--|---|---|---|--|---|
| 1-6 1/4 (464)<br>1-8 1/4 (514)<br>1-6 1/2 (470)<br>1-6 (457)<br>0-9 5/16 (237) |  |  |  |  |  |
|  | 4016  | 5016  | 5416  | 6016   | 7016  |
|  | 4020  | 5020  | 5420  | 6020   | 7020  |
|  | 4026  | 5026  | 5426  | 6026   | 7026  |






|                      |                |                |
|----------------------|----------------|----------------|
| 2-0 and 2-6 Heights: |                |                |
|                      | 2-0 Height     | 2-6 Height     |
| Clad MO (mm)         | 2-0 1/4 (616)  | 2-6 1/4 (768)  |
| Wood MO (mm)         | 2-2 1/4 (667)  | 2-8 1/4 (819)  |
| RO (mm)              | 2-0 1/2 (622)  | 2-6 1/2 (775)  |
| FS (mm)              | 2-0 (610)      | 2-6 (762)      |
| DLO (mm)             | 1-3 5/16 (389) | 1-9 5/16 (541) |

- Ultimate Inswing French Door Transoms: UIFDTR
- Ultimate Outswing French Door Transoms: UOFDTR
- Ultimate Wood Inswing French Door Transoms: UWIFDTR
- Ultimate Wood Outswing French Door Transoms: UWOFDTR

## 1 3/4" INSWING / OUTSWING FRENCH DOOR TRANSOMS






1 FRAME 3 SASH 1/6 HEIGHT (2/0 AND 2/6 HEIGHTS SEE BELOW)

|                     |                   |                  |                   |                   |                   |
|---------------------|-------------------|------------------|-------------------|-------------------|-------------------|
| <b>Clad MO (mm)</b> | 6-0 5/16 (1837)   | 7-6 5/16 (2294)  | 8-0 5/16 (2446)   | 9-0 5/16 (2751)   | 10-6 5/16 (3208)  |
| <b>Wood MO (mm)</b> | 6-2 15/16 (1903)  | 7-8 15/16 (2361) | 8-2 15/16 (2513)  | 9-2 15/16 (2818)  | 10-8 15/16 (3275) |
| <b>RO (mm)</b>      | 6-0 13/16 (1849)  | 7-6 13/16 (2307) | 8-0 13/16 (2459)  | 9-0 13/16 (2764)  | 10-6 13/16 (3221) |
| <b>FS (mm)</b>      | 5-11 13/16 (1824) | 7-5 13/16 (2281) | 7-11 13/16 (2434) | 8-11 13/16 (2738) | 10-5 13/16 (3196) |
| <b>DLO (mm)</b>     | 1-1 19/32 (345)   | 1-7 19/32 (498)  | 1-9 19/32 (548)   | 2-1 19/32 (650)   | 2-7 19/32 (802)   |

|  |   |   |   |   |   |
|--|---|---|---|---|---|
| 1-6 1/4 (464)<br>1-8 1/4 (514)<br>1-6 1/2 (470)<br>1-6 (457)<br>0-9 5/16 (237) |  |  |  |  |  |
|  | 6016  | 7616  | 8016  | 9016  | 10616   |
|  | 6020  | 7620  | 8020  | 9020  | 10620   |
|  | 6026  | 7626  | 8026  | 9026  | 10626   |

1 FRAME 4 SASH 1/6 HEIGHT (2/0 AND 2/6 HEIGHTS SEE BELOW)

|                     |                 |                 |                  |                  |                  |
|---------------------|-----------------|-----------------|------------------|------------------|------------------|
| <b>Clad MO (mm)</b> | 7-11 1/2 (2426) | 9-11 1/2 (3035) | 10-7 1/2 (3239)  | 11-11 1/2 (3645) | 13-11 1/2 (4255) |
| <b>Wood MO (mm)</b> | 8-2 1/8 (2492)  | 10-2 1/8 (3102) | 10-10 1/8 (3305) | 12-2 1/8 (3712)  | 14-2 1/8 (4321)  |
| <b>RO (mm)</b>      | 8-0 (2438)      | 10-0 (3048)     | 10-8 (3251)      | 12-0 (3658)      | 14-0 (4267)      |
| <b>FS (mm)</b>      | 7-11 (2413)     | 9-11 (3023)     | 10-7 (3226)      | 11-11 (3632)     | 13-11 (4242)     |
| <b>DLO (mm)</b>     | 1-1 19/32 (345) | 1-7 19/32 (498) | 1-9 19/32 (548)  | 2-1 19/32 (650)  | 2-7 19/32 (802)  |

|  |   |   |   |   |   |
|--|---|---|---|---|---|
| 1-6 1/4 (464)<br>1-8 1/4 (514)<br>1-6 1/2 (470)<br>1-6 (457)<br>0-9 5/16 (237) |  |  |  |  |  |
|  | 8016  | 10016   | 10816   | 12016   | 14016   |
|  | 8020  | 10020   | 10820   | 12020   | 14020   |
|  | 8026  | 10026   | 10826   | 12026   | 14026   |

Details and Elevations not to scale.

- Some transoms available factory mullled.
- For stand alone wood units in masonry openings add 11/16" (17) to the masonry opening height only.

Please consult your local Marvin representative for masonry openings that include casings and subsills.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

# ARCH TOP FRENCH DOOR 1 3/4"

6/8 HEIGHT (7/0, 8/0, AND 9/0 HEIGHTS SEE BELOW)

|              |                 |                 |                 |
|--------------|-----------------|-----------------|-----------------|
| Clad MO (mm) | 2-7 15/16 (811) | 2-9 15/16 (862) | 3-1 15/16 (946) |
| Wood MO (mm) | 2-10 9/16 (878) | 3-0 9/16 (929)  | 3-4 9/16 (1030) |
| RO (mm)      | 2-8 7/16 (824)  | 2-10 7/16 (875) | 3-2 7/16 (976)  |
| FS (mm)      | 2-7 7/16 (799)  | 2-9 7/16 (849)  | 3-1 7/16 (951)  |
| DLO (mm)     | 1-7 19/32 (498) | 1-9 19/32 (548) | 2-1 19/32 (650) |

|                      |  |      |
|----------------------|--|------|
| 6-10 1/4 (2089)      |  | 2668 |
| 6-11 9/16 (2122)     |  | 2670 |
| 6-10 1/2 (2096)      |  | 2680 |
| 6-10 (2083)          |  | 2690 |
| 5-6 1/8 (1680) O. A. |  |      |
|                      |  | 2868 |
|                      |  | 2870 |
|                      |  | 2880 |
|                      |  | 2890 |
|                      |  | 3068 |
|                      |  | 3070 |
|                      |  | 3080 |
|                      |  | 3090 |

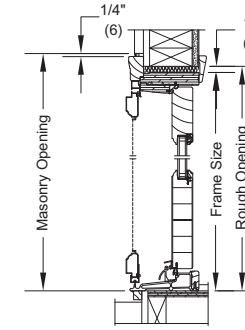
|              |                 |                 |
|--------------|-----------------|-----------------|
| Clad MO (mm) | 5-1 1/8 (1553)  | 6-1 1/8 (1857)  |
| Wood MO (mm) | 5-3 3/4 (1619)  | 6-3 3/4 (1924)  |
| RO (mm)      | 5-1 5/8 (1565)  | 6-1 5/8 (1870)  |
| FS (mm)      | 5-0 5/8 (1540)  | 6-0 5/8 (1845)  |
| DLO (mm)     | 1-7 19/32 (498) | 2-1 19/32 (650) |

|                       |  |      |
|-----------------------|--|------|
| 6-10 1/4 (2089)       |  | 5068 |
| 6-11 9/16 (2122)      |  | 5070 |
| 6-10 1/2 (2096)       |  | 5080 |
| 6-10 (2083)           |  | 5090 |
| 6-7 7/16 (1770) O. A. |  |      |
|                       |  | 6068 |
|                       |  | 6070 |
|                       |  | 6080 |
|                       |  | 6090 |

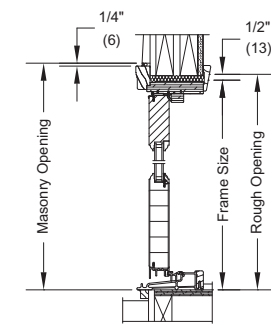
| 7-0, 8-0 AND 9-0 HEIGHTS: |                      |                     |                     |
|---------------------------|----------------------|---------------------|---------------------|
|                           | 7-0 Height           | 8-0 Height          | 9-0 Height          |
| Clad MO (mm)              | 7-2 1/4 (2191)       | 7-11 3/4 (2432)     | 8-11 3/4 (2737)     |
| Wood MO (mm)              | 7-3 9/16 (2224)      | 8-1 1/16 (2465)     | N/A                 |
| RO (mm)                   | 7-2 1/2 (2197)       | 8-0 (2438)          | 9-0 (2743)          |
| FS (mm)                   | 7-2 (2184)           | 7-11 1/2 (2426)     | 8-11 1/2 (2731)     |
| DLO (mm)                  | 5-10 1/8 (1781) O.A. | 6-7 5/8 (2022) O.A. | 7-7 5/8 (2327) O.A. |

# ARCH TOP FRENCH DOOR 1 3/4"

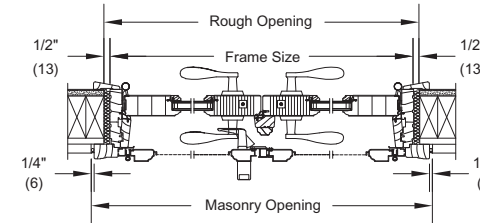
CONSTRUCTION DETAILS



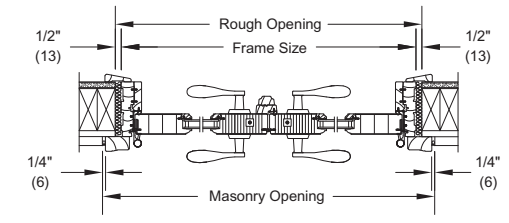
WOOD INSWING HEAD JAMB AND SILL WITH STANDARD SWINGING SCREEN



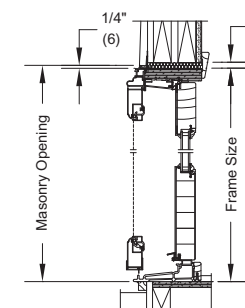
WOOD OUTSWING HEAD JAMB AND SILL WITH OPTIONAL WOOD SILL COVER



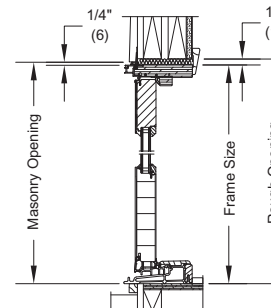
WOOD INSWING 2 PANEL JAMB XX RHI WITH STANDARD SWINGING SCREEN



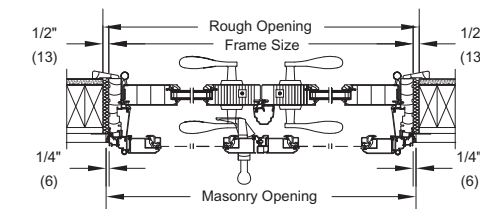
WOOD OUTSWING 2 PANEL JAMB XX LHO



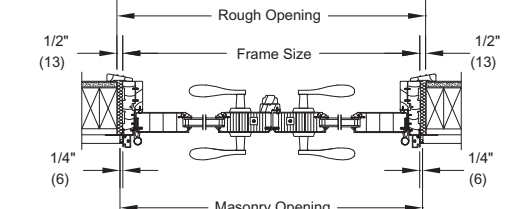
CLAD INSWING HEAD JAMB AND SILL WITH ULTIMATE SWINGING SCREEN



CLAD OUTSWING HEAD JAMB AND SILL WITH OPTIONAL WOOD SILL COVER



CLAD INSWING 2 PANEL JAMB XX LHI WITH ULTIMATE SWINGING SCREEN



CLAD OUTSWING 2 PANEL JAMB XX LHO

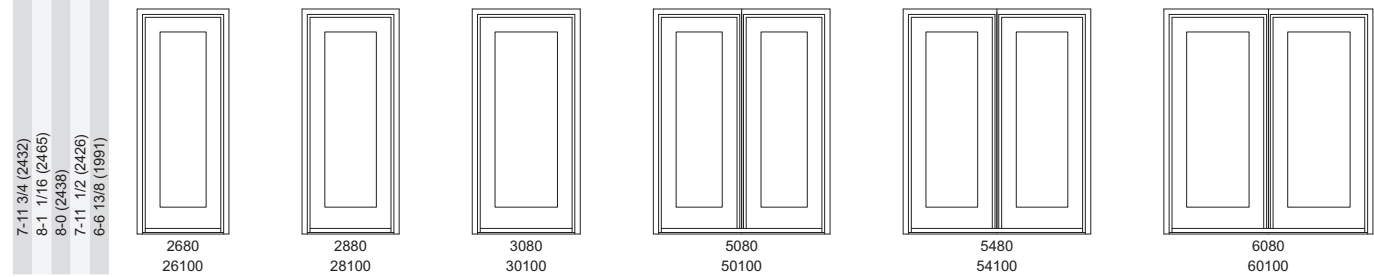
Ultimate Inswing French Door Arch Top: UIFDAT  
 Ultimate Outswing French Door Arch Top: UOFDAT  
 Ultimate Wood Inswing Arch Top French Door: UWIFDAT  
 Ultimate Wood Outswing Arch Top French Door: UWOFDAT

Details and Elevations not to scale.  
 • Standard rough opening radius on a single panel door is 40 1/2"  
 • Standard rough opening radius on a double panel door is 72 1/2"  
 Please consult your local Marvin representative for masonry openings that include casings and subsills.  
 For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

### INSWING / OUTSWING FRENCH DOOR 2 1/4"

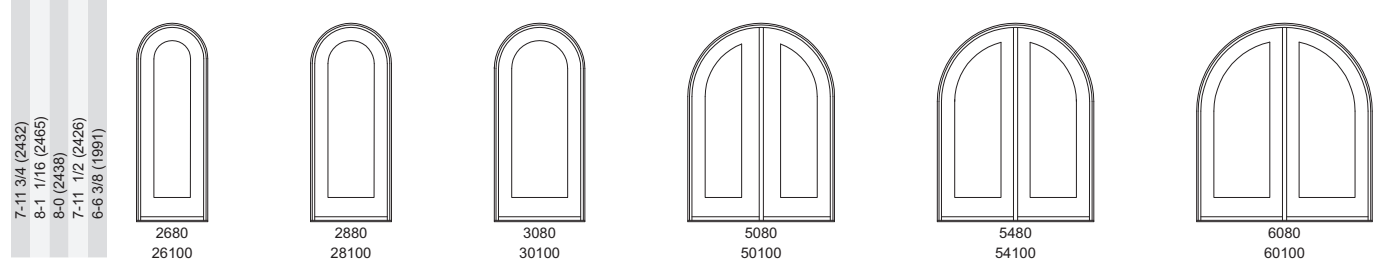
8/0 HEIGHT RECTANGLE INSWING AND OUTSWING (10/0 HEIGHT SEE BELOW)

|              |                 |                 |                 |                |                |                 |
|--------------|-----------------|-----------------|-----------------|----------------|----------------|-----------------|
| Clad MO (mm) | 2-7 15/16 (811) | 2-9 15/16 (862) | 3-1 15/16 (964) | 5-1 1/8 (1533) | 5-5 1/8 (1654) | 6-1 1/8 (1857)  |
| Wood MO (mm) | 2-10 9/16 (878) | 3-0 9/16 (929)  | 3-4 9/16 (1030) | 5-3 3/4 (1619) | 5-7 3/4 (1721) | 6-3 3/4 (1924)  |
| RO (mm)      | 2-8 7/16 (824)  | 2-10 7/16 (875) | 3-2 7/16 (976)  | 5-1 5/8 (1565) | 5-5 5/8 (1667) | 6-1 5/8 (1870)  |
| FS (mm)      | 2-7 7/16 (799)  | 2-9 7/16 (849)  | 3-1 7/16 (951)  | 5-0 5/8 (1540) | 5-4 5/8 (1641) | 6-0 5/8 (1845)  |
| DLO (mm)     | 1-5 3/32 (434)  | 1-7 3/32 (485)  | 1-11 3/32 (587) | 1-5 3/32 (434) | 1-7 3/32 (485) | 1-11 3/32 (587) |



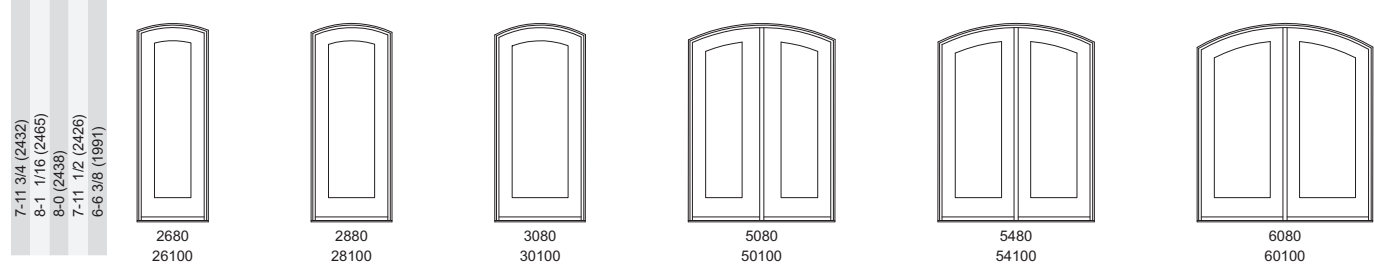
8/0 HEIGHT ARCHTOP RT2 INSWING AND OUTSWING (10/0 HEIGHT SEE BELOW)

|              |                 |                 |                 |                |                |                 |
|--------------|-----------------|-----------------|-----------------|----------------|----------------|-----------------|
| Clad MO (mm) | 2-7 15/16 (811) | 2-9 15/16 (862) | 3-1 15/16 (964) | 5-1 1/8 (1533) | 5-5 1/8 (1654) | 6-1 1/8 (1857)  |
| Wood MO (mm) | 2-10 9/16 (878) | 3-0 9/16 (929)  | 3-4 9/16 (1030) | 5-3 3/4 (1619) | 5-7 3/4 (1721) | 6-3 3/4 (1924)  |
| RO (mm)      | 2-8 7/16 (824)  | 2-10 7/16 (875) | 3-2 7/16 (976)  | 5-1 5/8 (1565) | 5-5 5/8 (1667) | 6-1 5/8 (1870)  |
| FS (mm)      | 2-7 7/16 (799)  | 2-9 7/16 (849)  | 3-1 7/16 (951)  | 5-0 5/8 (1540) | 5-4 5/8 (1641) | 6-0 5/8 (1845)  |
| DLO (mm)     | 1-5 3/32 (434)  | 1-7 3/32 (485)  | 1-11 3/32 (587) | 1-5 3/32 (434) | 1-7 3/32 (485) | 1-11 3/32 (587) |



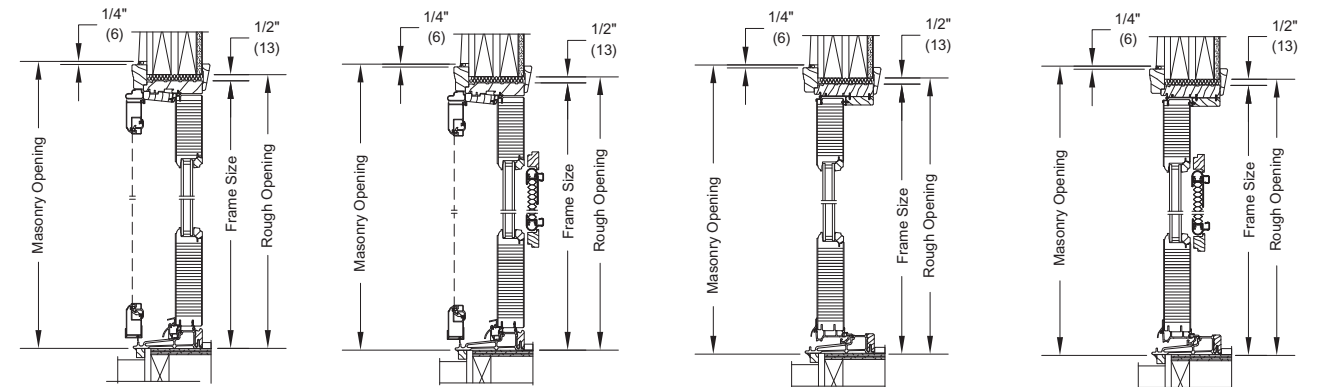
8/0 HEIGHT ARCHTOP RT6 INSWING AND OUTSWING (10/0 HEIGHT SEE BELOW)

|              |                 |                 |                 |                |                |                 |
|--------------|-----------------|-----------------|-----------------|----------------|----------------|-----------------|
| Clad MO (mm) | 2-7 15/16 (811) | 2-9 15/16 (862) | 3-1 15/16 (964) | 5-1 1/8 (1533) | 5-5 1/8 (1654) | 6-1 1/8 (1857)  |
| Wood MO (mm) | 2-10 9/16 (878) | 3-0 9/16 (929)  | 3-4 9/16 (1030) | 5-3 3/4 (1619) | 5-7 3/4 (1721) | 6-3 3/4 (1924)  |
| RO (mm)      | 2-8 7/16 (824)  | 2-10 7/16 (875) | 3-2 7/16 (976)  | 5-1 5/8 (1565) | 5-5 5/8 (1667) | 6-1 5/8 (1870)  |
| FS (mm)      | 2-7 7/16 (799)  | 2-9 7/16 (849)  | 3-1 7/16 (951)  | 5-0 5/8 (1540) | 5-4 5/8 (1641) | 6-0 5/8 (1845)  |
| DLO (mm)     | 1-5 3/32 (434)  | 1-7 3/32 (485)  | 1-11 3/32 (587) | 1-5 3/32 (434) | 1-7 3/32 (485) | 1-11 3/32 (587) |

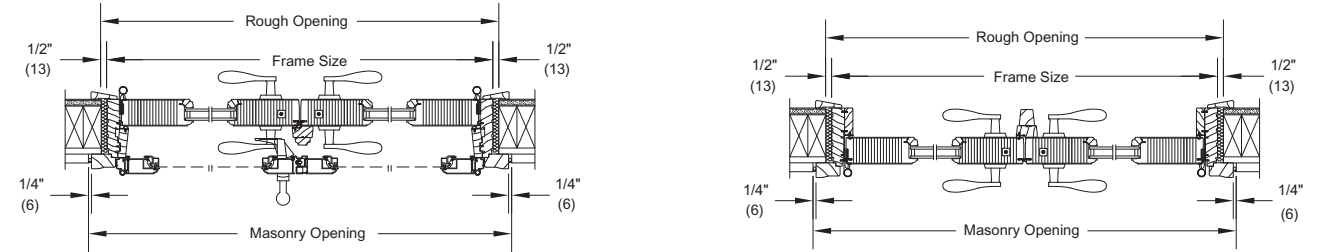


### WOOD INSWING / WOOD OUTSWING FRENCH DOOR 2 1/4"

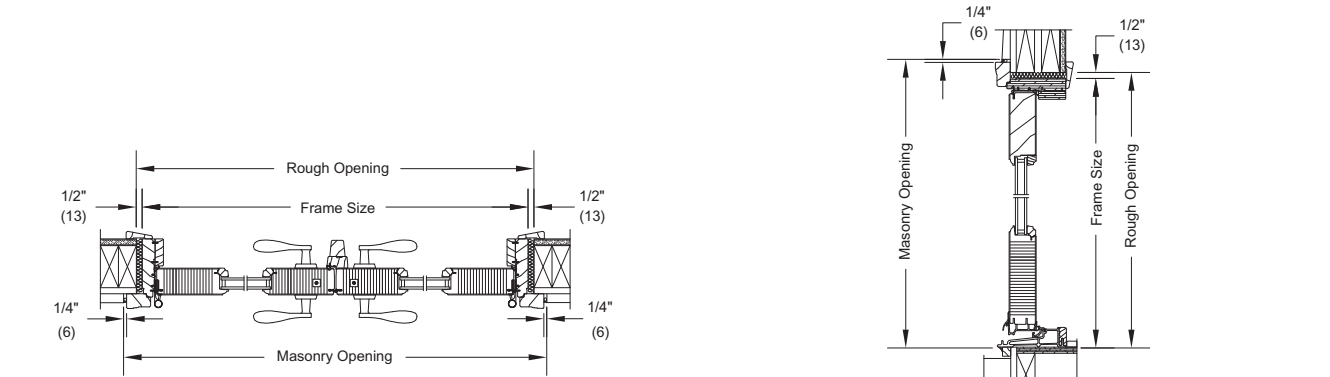
CONSTRUCTION DETAILS



WOOD INSWING HEAD JAMB AND SILL WITH ULTIMATE SWINGING SCREEN  
WOOD INSWING HEAD JAMB AND SILL WITH ULTIMATE SWINGING SCREEN AND INTERIOR SHADES  
WOOD OUTSWING HEAD JAMB AND SILL  
WOOD OUTSWING HEAD JAMB AND SILL WITH INTERIOR SHADES



WOOD INSWING 2 PANEL JAMB XXLHI WITH ULTIMATE SWINGING SCREEN  
WOOD OUTSWING 2 PANEL JAMB XXRHO



WOOD ARCHTOP OUTSWING 2 PANEL JAMB XXR  
WOOD ARCHTOP OUTSWING HEAD JAMB AND SILL

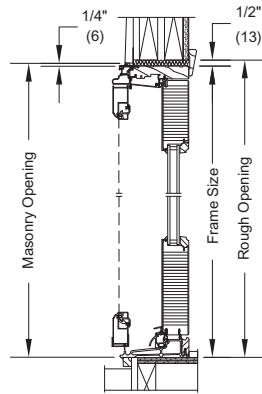
- Ultimate Inswing French Door 2 1/4 inch: UIFD2.25
- Ultimate Outswing French Door 2 1/4 inch: UOFD2.25
- Ultimate Wood Inswing French Door 2 1/4 inch: UWIFD2.25
- Ultimate Wood Outswing French Door 2 1/4 inch: UWOFD2.25

|               |                     |
|---------------|---------------------|
| 10-0 HEIGHTS: |                     |
|               | 10-0 Height         |
| Clad MO (mm)  | 9-1 3/4 (2788)      |
| Wood MO (mm)  | 10-1 1/16 (3075)    |
| RO (mm)       | 10-0 (3048)         |
| FS (mm)       | 9-11 1/2 (3035)     |
| DLO (mm)      | 8-6 3/8 (2600) O.A. |

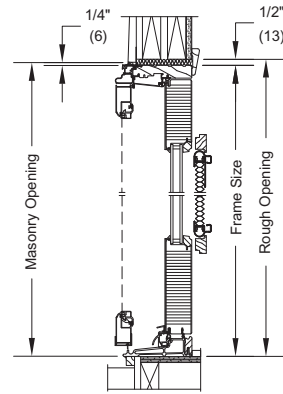
Details and Elevations not to scale.  
Please consult your local Marvin representative for more information.  
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

# INSWING / OUTSWING FRENCH DOOR 2 1/4"

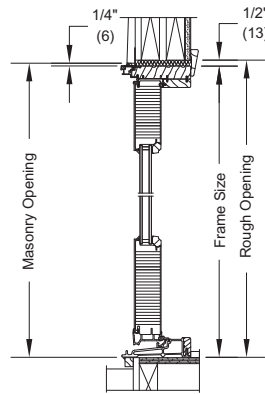
## CONSTRUCTION DETAILS



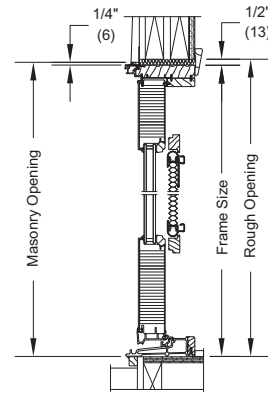
CLAD INSWING HEAD JAMB AND SILL WITH ULTIMATE SWINGING SCREEN



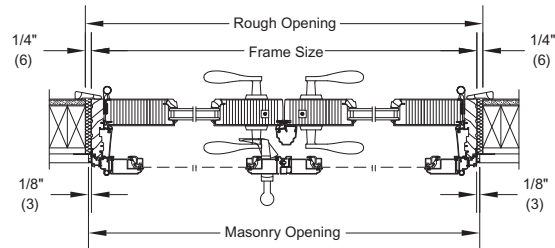
CLAD INSWING HEAD JAMB AND SILL WITH ULTIMATE SWINGING SCREEN AND INTERIOR SHADES



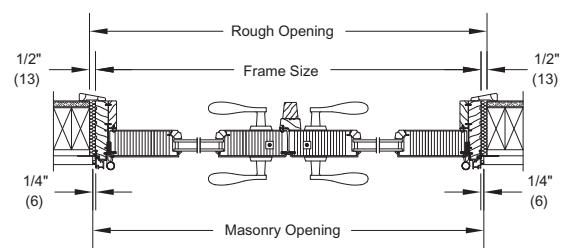
CLAD OUTSWING HEAD JAMB AND SILL



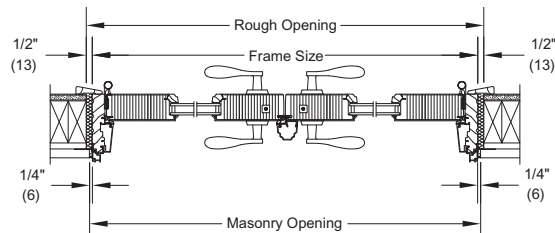
CLAD OUTSWING HEAD JAMB AND SILL WITH INTERIOR SHADES



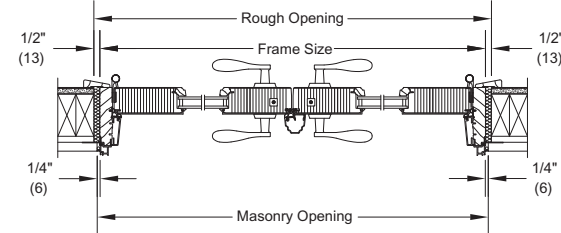
CLAD INSWING 2 PANEL JAMB XXLHI WITH ULTIMATE SWINGING SCREEN



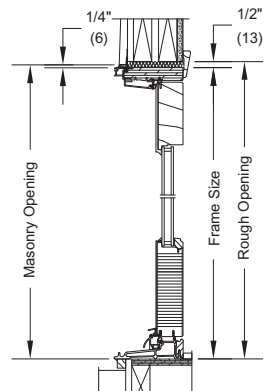
CLAD OUTSWING 2 PANEL JAMB XXRHO



CLAD ARCHTOP INSWING 2 PANEL JAMB XXL RT6



CLAD ARCHTOP INSWING 2 PANEL JAMB XXL RT2

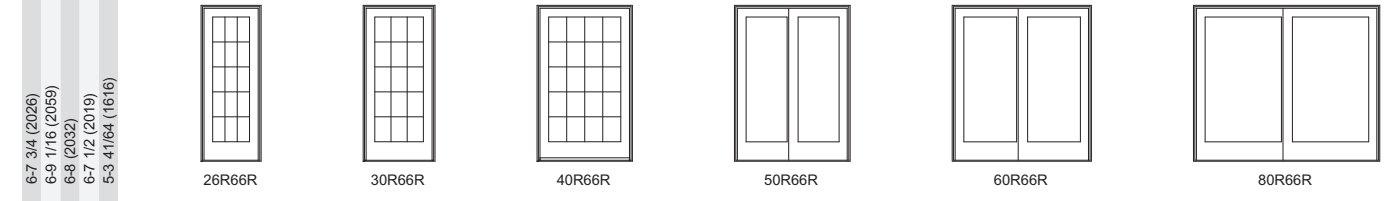


CLAD ARCHTOP INSWING HEAD JAMB AND SILL RT2 AND RT6 WITH ULTIMATE SWINGING SCREEN

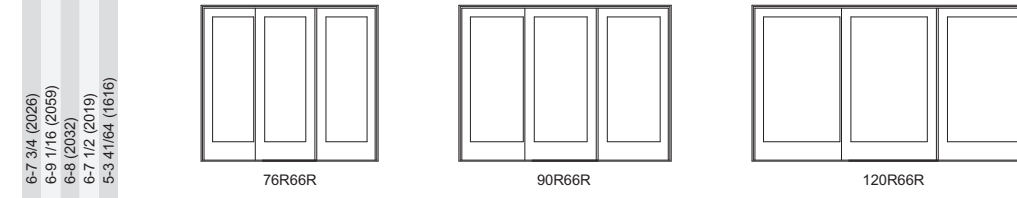
# SLIDING FRENCH DOOR

## 6-6R HEIGHT

|              |                 |                 |                 |                 |                 |                 |
|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Clad MO (mm) | 2-7 1/8 (791)   | 3-1 1/8 (943)   | 4-1 1/8 (1248)  | 4-11 1/2 (1511) | 5-11 1/2 (1816) | 7-11 1/2 (2426) |
| Wood MO (mm) | 2-9 3/4 (857)   | 3-3 3/4 (1010)  | 4-3 3/4 (1314)  | 5-2 1/8 (1578)  | 6-2 1/8 (1883)  | 8-2 1/8 (2492)  |
| RO (mm)      | 2-7 5/8 (803)   | 3-1 5/8 (956)   | 4-1 5/8 (1260)  | 5-0 (1524)      | 6-0 (1829)      | 8-0 (2438)      |
| FS (mm)      | 2-6 5/8 (778)   | 3-0 5/8 (930)   | 4-0 5/8 (1235)  | 4-11 (1499)     | 5-11 (1803)     | 7-11 (2413)     |
| DLO (mm)     | 1-6 25/32 (477) | 2-0 25/32 (629) | 3-0 25/32 (934) | 1-7 19/32 (498) | 2-1 19/32 (650) | 3-1 19/32 (955) |



|              |                 |                 |                 |
|--------------|-----------------|-----------------|-----------------|
| Clad MO (mm) | 7-6 3/4 (2306)  | 9-0 3/4 (2763)  | 12-0 3/4 (3677) |
| Wood MO (mm) | 7-9 3/8 (2373)  | 8-9 3/8 (2677)  | 12-3 3/8 (3744) |
| RO (mm)      | 7-7 1/4 (2319)  | 9-1 1/4 (2776)  | 12-1 1/4 (3690) |
| FS (mm)      | 7-6 1/4 (2293)  | 9-0 1/4 (2750)  | 12-0 1/4 (3665) |
| DLO (mm)     | 1-8 15/16 (532) | 2-2 15/16 (684) | 3-2 15/16 (989) |



Details and Elevations not to scale.  
 O: STATIONARY X: OPERATING L: LEFT HAND R: RIGHT HAND  
 R = Retro Size

- Lite patterns shown are for standard, SDL and ADL in 6-6 and 6-8 heights. The standard lite pattern for 8-0 height is a 6 high lite cut. Standard lite cut for 9-0 height is a 7 high lite cut.
- All glass is tempered.
- Right or left hand operation is determined by the direction the door panel travels to open position, as viewed from exterior. OXXO can be ordered Left active or Right active.
- Available in clad 6-8 height only.

Please consult your local Marvin representative for masonry openings that include casings and subsills.

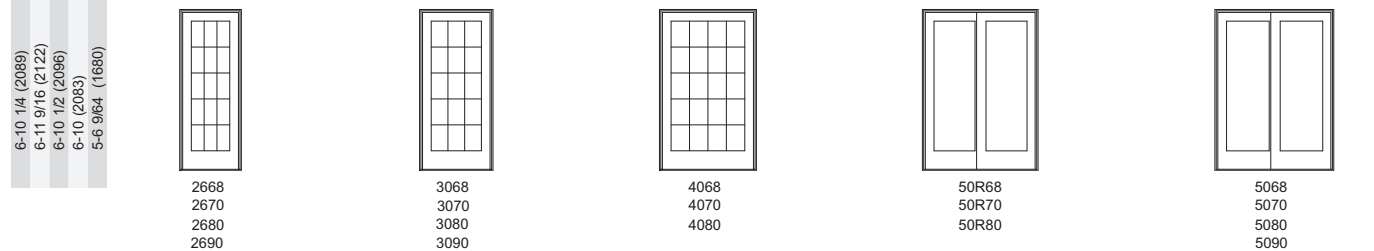
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

Ultimate Sliding French Door: USFD  
 Ultimate Wood Sliding French Door: UWSFD

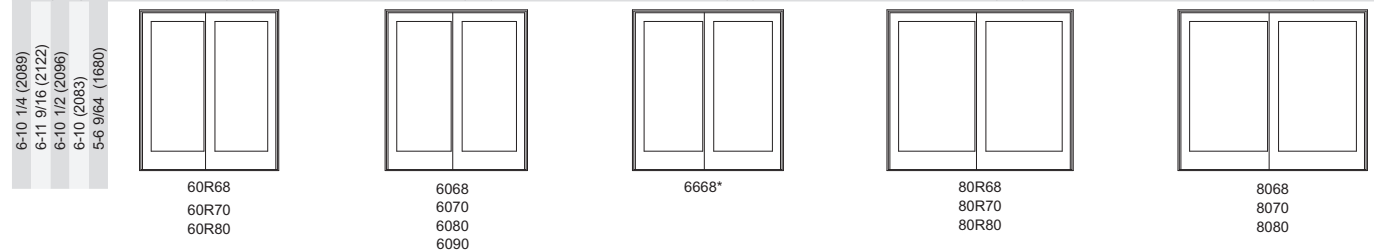
# WOOD SLIDING FRENCH DOOR

6-8 HEIGHT (7-0, 8-0 AND 9-0 HEIGHT SEE BELOW)

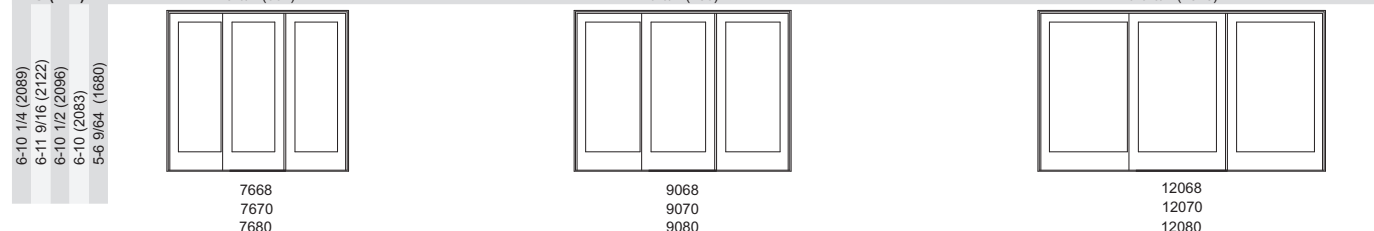
|                     |                 |                 |                  |                 |                |
|---------------------|-----------------|-----------------|------------------|-----------------|----------------|
| <b>Clad MO (mm)</b> | 2-7 15/16 (811) | 3-1 15/16 (964) | 4-1 15/16 (1268) | 4-11 1/2 (1511) | 5-1 1/8 (1553) |
| <b>Wood MO (mm)</b> | 2-10 9/16 (878) | 3-4 9/16 (1030) | 4-4 9/16 (1335)  | 5-2 1/8 (1578)  | 5-3 3/4 (1619) |
| <b>RO (mm)</b>      | 2-8 7/16 (824)  | 3-2 7/16 (976)  | 4-2 7/16 (1281)  | 5-0 (1524)      | 5-1 5/8 (1565) |
| <b>FS (mm)</b>      | 2-7 7/16 (799)  | 3-1 7/16 (951)  | 4-1 7/16 (1256)  | 4-11 (1499)     | 5-0 5/8 (1540) |
| <b>DLO (mm)</b>     | 1-7 19/32 (498) | 2-1 19/32 (650) | 3-1 19/32 (955)  | 1-8 15/16 (832) | 1-9 3/4 (552)  |



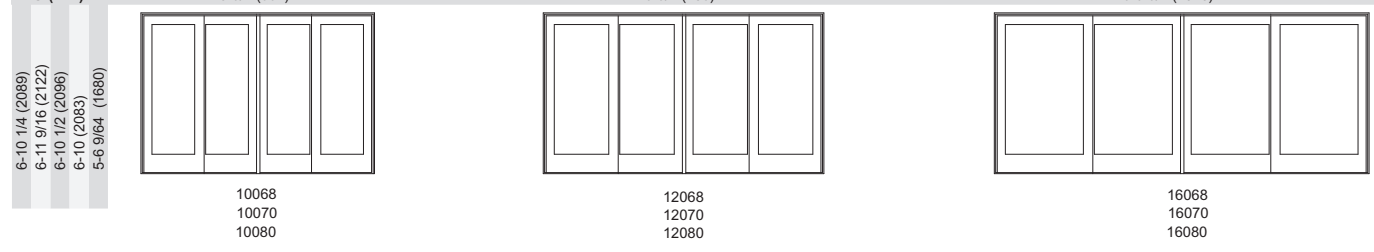
|                     |                 |                |                 |                 |                |
|---------------------|-----------------|----------------|-----------------|-----------------|----------------|
| <b>Clad MO (mm)</b> | 5-11 1/2 (1816) | 6-1 1/8 (1857) | 6-5 1/2 (1969)  | 7-11 1/2 (2426) | 8-1 1/8 (2467) |
| <b>Wood MO (mm)</b> | 6-2 1/8 (1883)  | 6-3 3/4 (1924) | N/A             | 8-2 1/8 (2492)  | 8-3 3/4 (2534) |
| <b>RO (mm)</b>      | 6-0 (1829)      | 6-1 5/8 (1870) | 6-6 (1981)      | 8-0 (2438)      | 8-1 5/8 (2480) |
| <b>FS (mm)</b>      | 5-11 (1803)     | 6-0 5/8 (1845) | 6-5 (1956)      | 7-11 (2413)     | 8-0 5/8 (2454) |
| <b>DLO (mm)</b>     | 2-2 15/16 (684) | 2-3 3/4 (705)  | 2-5 15/16 (760) | 3-2 15/16 (989) | 3-3 3/4 (1010) |



|                     |                 |                |                 |
|---------------------|-----------------|----------------|-----------------|
| <b>Clad MO (mm)</b> | 7-9 1/4 (2368)  | 9-3 1/4 (2825) | 12-3 1/4 (3739) |
| <b>Wood MO (mm)</b> | 7-11 7/8 (2434) | 9-5 7/8 (2892) | 12-5 7/8 (3806) |
| <b>RO (mm)</b>      | 7-9 3/4 (2380)  | 9-3 3/4 (2838) | 12-3 3/4 (3852) |
| <b>FS (mm)</b>      | 7-8 3/4 (2355)  | 9-2 3/4 (2813) | 12-2 3/4 (3727) |
| <b>DLO (mm)</b>     | 1-9 3/4 (552)   | 2-3 3/4 (705)  | 3-3 3/4 (1010)  |



|                     |                 |                  |                  |
|---------------------|-----------------|------------------|------------------|
| <b>Clad MO (mm)</b> | 9-11 1/2 (3035) | 11-11 1/2 (3645) | 15-11 1/2 (4864) |
| <b>Wood MO (mm)</b> | 10-2 1/8 (3102) | 12-2 1/8 (3712)  | 16-2 1/8 (4931)  |
| <b>RO (mm)</b>      | 10-0 (3048)     | 12-0 (3658)      | 16-0 (4877)      |
| <b>FS (mm)</b>      | 9-11 (3023)     | 11-11 (3632)     | 15-11 (4851)     |
| <b>DLO (mm)</b>     | 1-9 3/4 (552)   | 2-3 3/4 (705)    | 3-3 3/4 (1010)   |



Details and Elevations not to scale.  
 O: STATIONARY X: OPERATING L: LEFT HAND R: RIGHT HAND  
 R = Retro Size  
 \* Clad Only

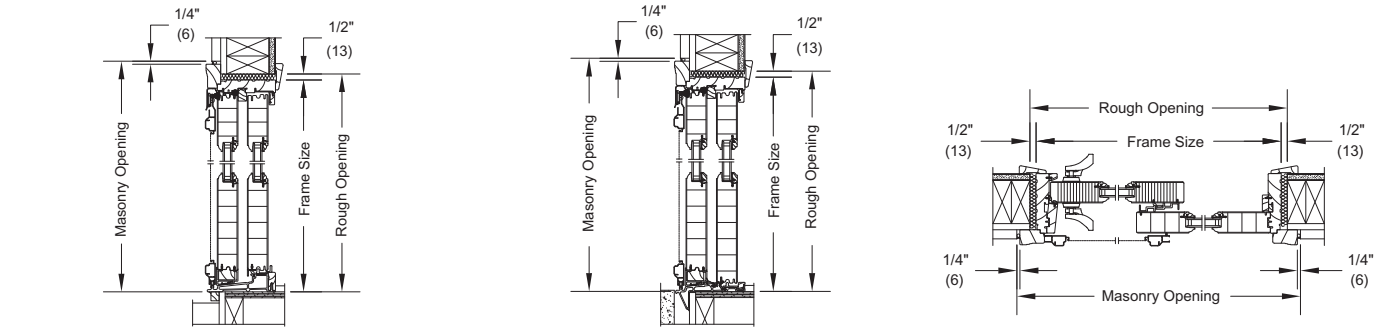
- Lite patterns shown are for standard, SDL and ADL in 6-6 and 6-8 heights. The standard lite pattern for 8-0 height is a 6 high lite cut. Standard lite cut for 9-0 height is a 7 high lite cut.
  - All glass is tempered.
  - Right or left hand operation is determined by the direction the door panel travels to open position, as viewed from exterior. OXXO can be ordered Left active or Right active.
  - CN 9-0 heights are limited to 1 and 2 wide configurations using CN2-6 and 3-0 panels.
  - Available in clad 6-8 height only.
- Please consult your local Marvin representative for masonry openings that include casings and subsills.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

| 7-0, 8-0 AND 9-0 HEIGHTS: |                  |                  |                  |
|---------------------------|------------------|------------------|------------------|
|                           | 7-0 Height       | 8-0 Height       | 9-0 Height       |
| Clad MO (mm)              | 7-2 1/4 (2191)   | 7-11 3/4 (2432)  | 8-11 3/4 (2737)  |
| Wood MO (mm)              | 7-3 9/16 (2224)  | 8-1 1/16 (2465)  | N/A              |
| RO (mm)                   | 7-2 1/2 (2197)   | 8-0 (2438)       | 9-0 (2743)       |
| FS (mm)                   | 7-2 (2184)       | 7-11 1/2 (2426)  | 8-11 1/2 (2731)  |
| DLO (mm)                  | 5-10 9/64 (1781) | 6-7 41/64 (2023) | 7-7 41/64 (2328) |

# WOOD SLIDING FRENCH DOOR

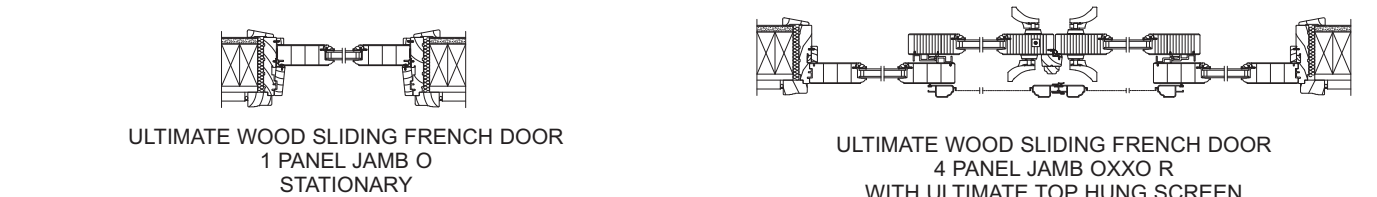
CONSTRUCTION DETAIL



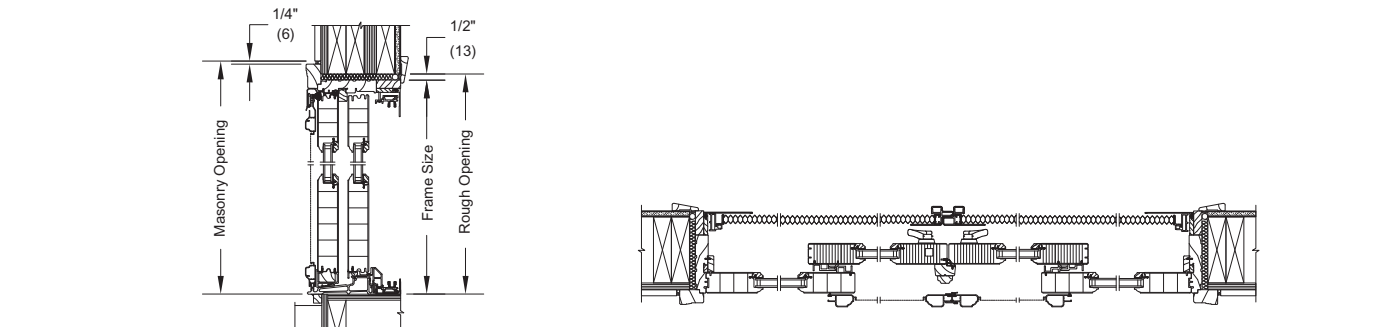
ULTIMATE WOOD SLIDING FRENCH DOOR HEAD JAMB AND SILL WITH ULTIMATE TOP HUNG SCREEN  
 ULTIMATE WOOD SLIDING FRENCH DOOR HEAD JAMB AND SILL WITH HIGH PERFORMANCE LOW PROFILE SILL  
 ULTIMATE WOOD SLIDING FRENCH DOOR 2 PANEL JAMB XO WITH ULTIMATE TOP HUNG SCREEN



ULTIMATE WOOD SLIDING FRENCH DOOR 3 PANEL JAMB OXO R WITH ULTIMATE TOP HUNG SCREEN  
 ULTIMATE WOOD SLIDING FRENCH DOOR 3 PANEL JAMB X00 WITH ULTIMATE TOP HUNG SCREEN

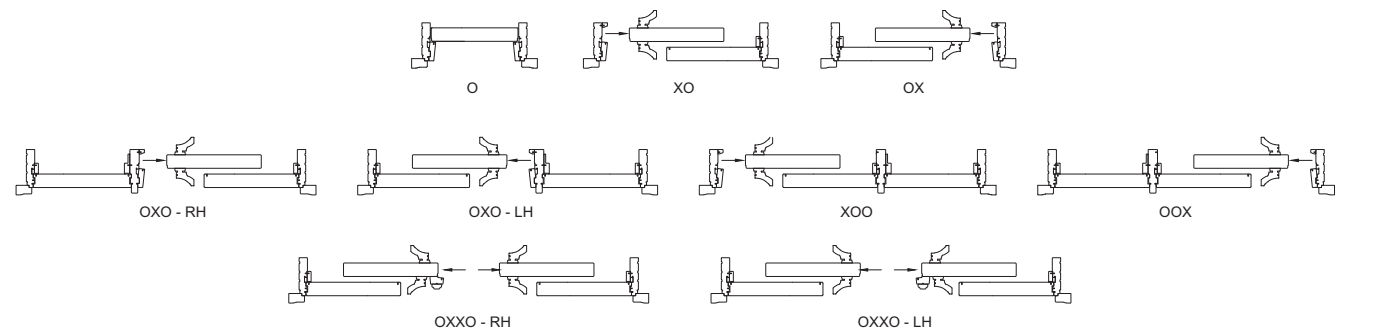


ULTIMATE WOOD SLIDING FRENCH DOOR 1 PANEL JAMB O STATIONARY  
 ULTIMATE WOOD SLIDING FRENCH DOOR 4 PANEL JAMB OXXO R WITH ULTIMATE TOP HUNG SCREEN



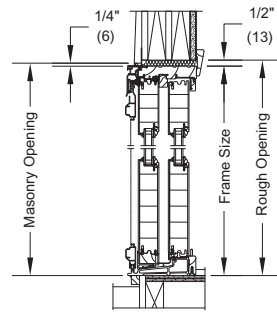
ULTIMATE WOOD SLIDING FRENCH DOOR HEAD JAMB AND SILL WITH INTERIOR SHADES  
 ULTIMATE WOOD SLIDING FRENCH DOOR 4 PANEL JAMB OXXO R WITH INTERIOR SHADES

## PANEL CONFIGURATIONS

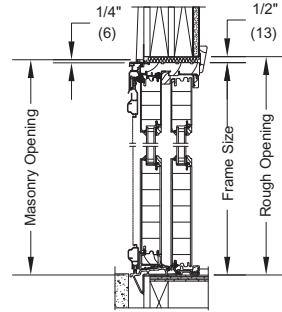


# SLIDING FRENCH DOOR

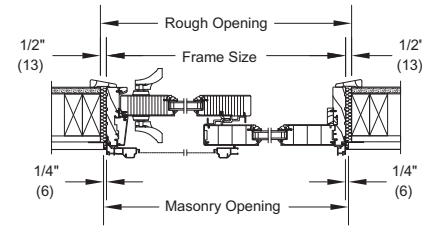
## CONSTRUCTION DETAILS



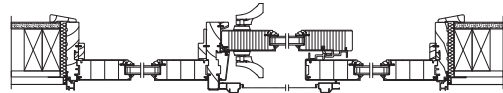
ULTIMATE SLIDING FRENCH DOOR HEAD JAMB AND SILL WITH ULTIMATE TOP HUNG SCREEN



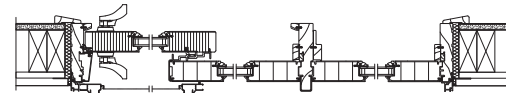
ULTIMATE SLIDING FRENCH DOOR HEAD JAMB AND SILL WITH HIGH PERFORMANCE LOW PROFILE SILL



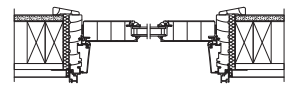
ULTIMATE SLIDING FRENCH DOOR 2 PANEL JAMB XO WITH ULTIMATE TOP HUNG SCREEN



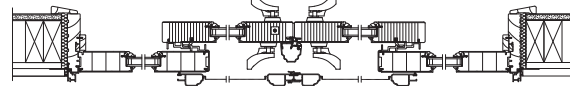
ULTIMATE SLIDING FRENCH DOOR 3 PANEL JAMB OXO R WITH ULTIMATE TOP HUNG SCREEN



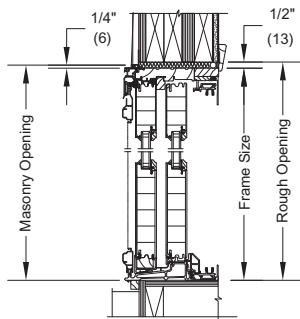
ULTIMATE SLIDING FRENCH DOOR 3 PANEL JAMB X00 WITH ULTIMATE TOP HUNG SCREEN



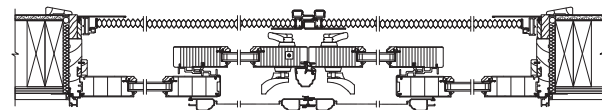
ULTIMATE SLIDING FRENCH DOOR 1 PANEL JAMB O STATIONARY



ULTIMATE SLIDING FRENCH DOOR 4 PANEL JAMB OXXO R WITH ULTIMATE TOP HUNG SCREEN

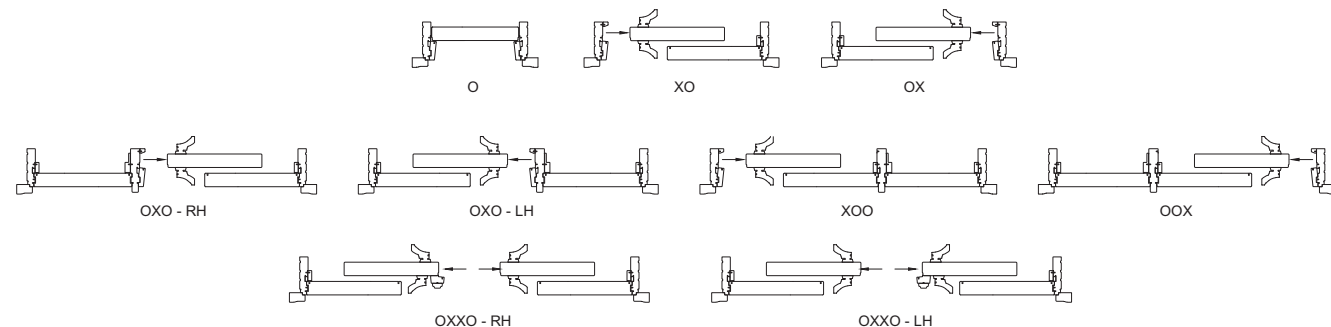


ULTIMATE SLIDING FRENCH DOOR HEAD JAMB AND SILL WITH INTERIOR SHADES



ULTIMATE SLIDING FRENCH DOOR 4 PANEL JAMB OXXO R WITH INTERIOR SHADES

## PANEL CONFIGURATIONS



# SLIDING FRENCH DOOR TRANSOMS

## 1 FRAME 1 SASH 1/6 HEIGHT (2/0 AND 2/6 HEIGHTS SEE BELOW)

|              |                 |                 |                  |                  |                  |                  |
|--------------|-----------------|-----------------|------------------|------------------|------------------|------------------|
| Clad MO (mm) | 2-7 15/16 (811) | 3-1 15/16 (964) | 4-1 15/16 (1268) | 5-1 1/8 (1553)   | 6-1 1/8 (1857)   | 8-1 1/8 (2467)   |
| Wood MO (mm) | 2-10 9/16 (878) | 3-4 9/16 (1030) | 4-4 9/16 (1335)  | 5-3 3/4 (1619)   | 6-3 3/4 (1924)   | 8-3 3/4 (2534)   |
| RO (mm)      | 2-8 7/16 (824)  | 3-2 7/16 (976)  | 4-2 7/16 (1281)  | 5-1 5/8 (1565)   | 6-1 5/8 (1870)   | 8-1 5/8 (2480)   |
| FS (mm)      | 2-7 7/16 (799)  | 3-1 7/16 (951)  | 4-1 7/16 (1256)  | 5-0 5/8 (1540)   | 6-0 5/8 (1845)   | 8-0 5/8 (2454)   |
| DLO (mm)     | 1-7 19/32 (498) | 2-1 19/32 (650) | 3-1 19/32 (955)  | 4-0 25/32 (1239) | 5-0 25/32 (1544) | 7-0 25/32 (2153) |

|                |      |      |      |      |      |      |
|----------------|------|------|------|------|------|------|
| 1-6 1/4 (464)  | 2616 | 3016 | 4016 | 5016 | 6016 | 8016 |
| 1-8 1/4 (514)  | 2620 | 3020 | 4020 | 5020 | 6020 | 8020 |
| 1-6 1/2 (470)  | 2626 | 3026 | 4026 | 5026 | 6026 | 8026 |
| 1-6 (457)      |      |      |      |      |      |      |
| 0-9 5/16 (237) |      |      |      |      |      |      |

## 1 FRAME 1 SASH WITH CENTER STILE 1/6 HEIGHT (2/0 AND 2/6 HEIGHTS SEE BELOW)

|              |                |                |                |
|--------------|----------------|----------------|----------------|
| Clad MO (mm) | 5-1 1/8 (1553) | 6-1 1/8 (1857) | 8-1 1/8 (2467) |
| Wood MO (mm) | 5-3 3/4 (1619) | 6-3 3/4 (1924) | 8-3 3/4 (2534) |
| RO (mm)      | 5-1 5/8 (1565) | 6-1 5/8 (1870) | 8-1 5/8 (2480) |
| FS (mm)      | 5-0 5/8 (1540) | 6-0 5/8 (1845) | 8-0 5/8 (2454) |
| DLO (mm)     | 1-9 3/4 (552)  | 2-3 3/4 (705)  | 3-3 3/4 (1010) |

|                |      |      |      |
|----------------|------|------|------|
| 1-6 1/4 (464)  | 5016 | 6016 | 8016 |
| 1-8 1/4 (514)  | 5020 | 6020 | 8020 |
| 1-6 1/2 (470)  | 5026 | 6026 | 8026 |
| 1-6 (457)      |      |      |      |
| 0-9 5/16 (237) |      |      |      |

## 1 FRAME 2 SASH WITH CENTER STILE 1/6 HEIGHT (2/0 AND 2/6 HEIGHTS SEE BELOW)

|              |                 |                |                 |
|--------------|-----------------|----------------|-----------------|
| Clad MO (mm) | 7-9 1/4 (2369)  | 9-3 1/4 (2826) | 12-3 1/4 (3740) |
| Wood MO (mm) | 7-11 7/8 (2435) | 9-5 7/8 (2892) | 12-5 7/8 (3807) |
| RO (mm)      | 7-9 3/4 (2381)  | 9-3 3/4 (2838) | 12-3 3/4 (3753) |
| FS (mm)      | 7-8 3/4 (2356)  | 9-2 3/4 (2813) | 12-2 3/4 (3727) |
| DLO (mm)     | 1-9 3/4 (552)   | 2-3 3/4 (705)  | 3-3 3/4 (1010)  |

|                |      |      |       |
|----------------|------|------|-------|
| 1-6 1/4 (464)  | 7616 | 9016 | 12016 |
| 1-8 1/4 (514)  | 7620 | 9020 | 12020 |
| 1-6 1/2 (470)  | 7626 | 9026 | 12026 |
| 1-6 (457)      |      |      |       |
| 0-9 5/16 (237) |      |      |       |

## 1 FRAME 2 SASH WITH 2 CENTER STILE 1/6 HEIGHT (2/0 AND 2/6 HEIGHTS SEE BELOW)

|              |                 |                  |                  |
|--------------|-----------------|------------------|------------------|
| Clad MO (mm) | 9-11 1/2 (3035) | 11-11 1/2 (3645) | 15-11 1/2 (4864) |
| Wood MO (mm) | 10-2 1/8 (3102) | 12-2 1/8 (3712)  | 16-2 1/8 (4931)  |
| RO (mm)      | 10-0 (3048)     | 12-0 (3658)      | 16-0 (4877)      |
| FS (mm)      | 9-11 (3023)     | 11-11 (3632)     | 15-11 (4851)     |
| DLO (mm)     | 1-9 3/4 (552)   | 2-3 3/4 (705)    | 3-3 3/4 (1010)   |

|                |       |       |       |
|----------------|-------|-------|-------|
| 1-6 1/4 (464)  | 10016 | 12016 | 16016 |
| 1-8 1/4 (514)  | 10020 | 12020 | 16020 |
| 1-6 1/2 (470)  | 10026 | 12026 | 16026 |
| 1-6 (457)      |       |       |       |
| 0-9 5/16 (237) |       |       |       |

| 2-0 and 2-6 Heights: |                |                |
|----------------------|----------------|----------------|
|                      | 2-0 Height     | 2-6 Height     |
| Clad MO (mm)         | 2-0 1/4 (616)  | 2-6 1/4 (768)  |
| Wood MO (mm)         | 2-2 1/4 (667)  | 2-8 1/4 (819)  |
| RO (mm)              | 2-0 1/2 (622)  | 2-6 1/2 (775)  |
| FS (mm)              | 2-0 (610)      | 2-6 (762)      |
| DLO (mm)             | 1-3 5/16 (389) | 1-9 5/16 (541) |

Details and Elevations not to scale.

- Some transoms available factory mullied.
- For stand alone wood units in masonry openings add 11/16" (17) to the masonry opening height only.

Please consult your local Marvin representative for information on structural mulling guidelines and masonry openings that include casings and subsills.

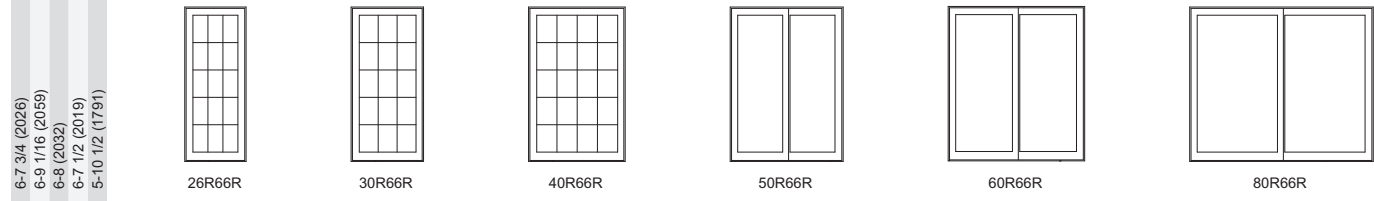
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

Ultimate Sliding French Door Transom: USFDTR  
 Ultimate Wood Sliding French Door Transom: UWSFDTR

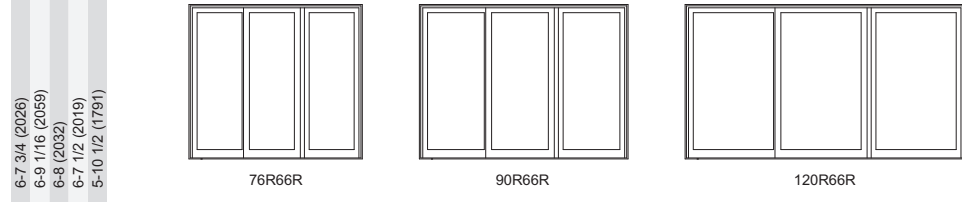
# SLIDING PATIO DOOR

## 6-6R HEIGHT

|                     |                 |                 |                  |                 |                 |                 |
|---------------------|-----------------|-----------------|------------------|-----------------|-----------------|-----------------|
| <b>Clad MO (mm)</b> | 2-8 7/16 (824)  | 3-2 7/16 (976)  | 4-2 7/16 (1281)  | 4-11 1/2 (1511) | 5-11 1/2 (1816) | 7-11 1/2 (2426) |
| <b>Wood MO (mm)</b> | 2-11 1/16 (891) | 3-5 1/16 (1043) | 4-5 1/16 (1348)  | 5-2 1/8 (1578)  | 6-2 1/8 (1883)  | 8-2 1/8 (2492)  |
| <b>RO (mm)</b>      | 2-8 15/16 (837) | 3-2 15/16 (989) | 4-2 15/16 (1294) | 5-0 (1524)      | 6-0 (1829)      | 8-0 (2438)      |
| <b>FS (mm)</b>      | 2-7 15/16 (812) | 3-1 15/16 (964) | 4-1 15/16 (1268) | 4-11 (1499)     | 5-11 (1803)     | 7-11 (2413)     |
| <b>DLO (mm)</b>     | 1-11 5/8 (600)  | 2-5 5/8 (752)   | 3-5 5/8 (1057)   | 2-0 7/16 (621)  | 2-5 5/8 (752)   | 3-6 7/16 (1078) |



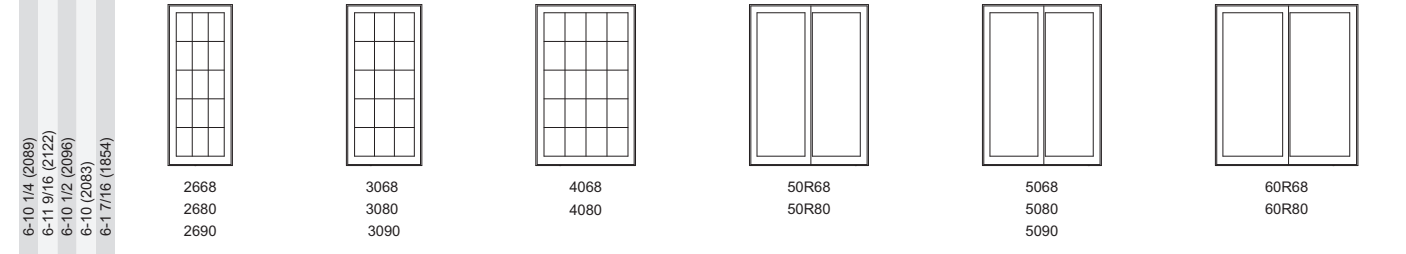
|                     |                  |                  |                   |
|---------------------|------------------|------------------|-------------------|
| <b>Clad MO (mm)</b> | 7-6 13/16 (2307) | 9-0 13/16 (2764) | 12-0 13/16 (3678) |
| <b>Wood MO (mm)</b> | 7-9 7/16 (2373)  | 9-3 7/16 (2831)  | 12-3 7/16 (3745)  |
| <b>RO (mm)</b>      | 7-7 5/16 (2319)  | 9-1 5/16 (2777)  | 12-1 5/16 (3691)  |
| <b>FS (mm)</b>      | 7-6 5/16 (2294)  | 9-0 5/16 (2751)  | 12-0 5/16 (3666)  |
| <b>DLO (mm)</b>     | 1-11 5/8 (600)   | 2-5 5/8 (752)    | 3-5 5/8 (1057)    |



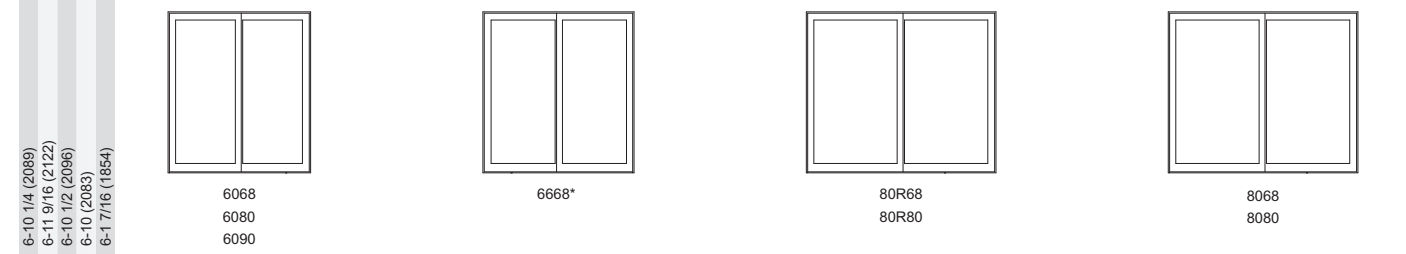
# SLIDING PATIO DOOR

## 6-8 HEIGHT (8-0 AND 9-0 HEIGHT SEE BELOW)

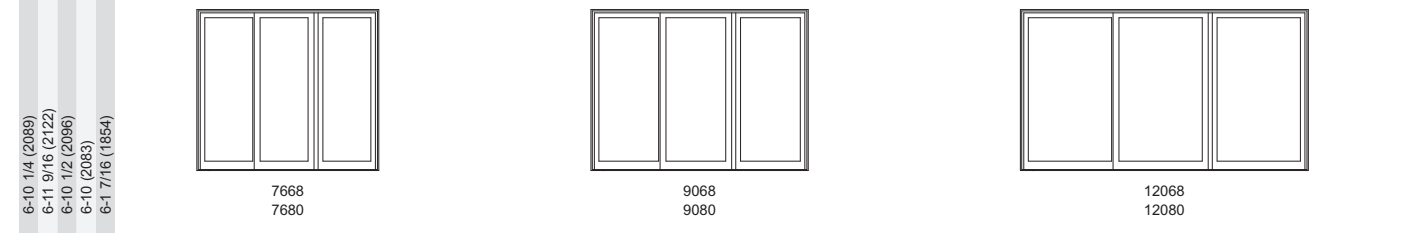
|                     |                |                |                 |                 |                |                 |
|---------------------|----------------|----------------|-----------------|-----------------|----------------|-----------------|
| <b>Clad MO (mm)</b> | 2-9 1/4 (845)  | 3-3 1/4 (997)  | 4-3 1/4 (1302)  | 4-11 1/2 (1511) | 5-1 1/8 (1553) | 5-11 1/2 (1816) |
| <b>Wood MO (mm)</b> | 2-11 7/8 (911) | 3-5 7/8 (1064) | 4-5 7/8 (1368)  | 5-2 1/8 (1578)  | 5-3 3/4 (1619) | 6-2 1/8 (1883)  |
| <b>RO (mm)</b>      | 2-9 3/4 (857)  | 3-3 3/4 (1010) | 4-3 3/4 (1314)  | 5-0 (1524)      | 5-1 5/8 (1565) | 6-0 (1829)      |
| <b>FS (mm)</b>      | 2-8 3/4 (833)  | 3-2 3/4 (985)  | 4-2 3/4 (1290)  | 4-11 (1499)     | 5-0 5/8 (1540) | 5-11 (1803)     |
| <b>DLO (mm)</b>     | 2-0 7/16 (621) | 2-6 7/16 (773) | 3-6 7/16 (1078) | 1-11 5/8 (600)  | 2-0 7/16 (621) | 2-5 5/8 (752)   |



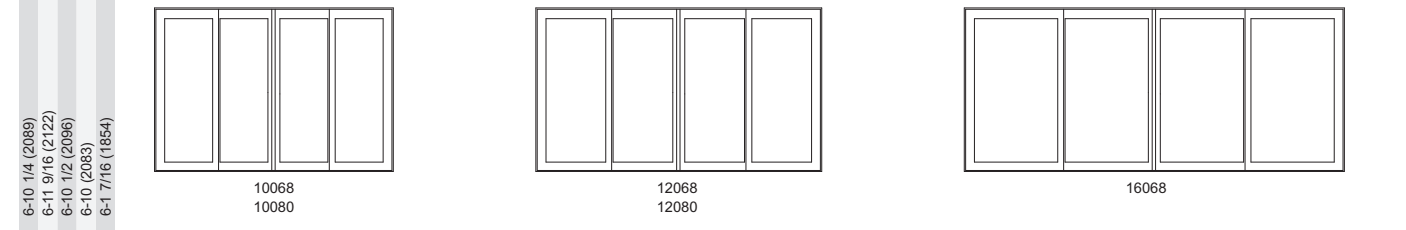
|                     |                |                |                 |                 |
|---------------------|----------------|----------------|-----------------|-----------------|
| <b>Clad MO (mm)</b> | 6-1 1/8 (1857) | 6-5 1/2 (1969) | 7-11 1/2 (2426) | 8-1 1/8 (2467)  |
| <b>Wood MO (mm)</b> | 6-3 3/4 (1924) | N/A            | 8-2 1/8 (2492)  | 8-3 3/4 (2534)  |
| <b>RO (mm)</b>      | 6-1 5/8 (1870) | 6-6 (1981)     | 8-0 (2438)      | 8-1 5/8 (2480)  |
| <b>FS (mm)</b>      | 6-0 5/8 (1845) | 6-5 (1956)     | 7-11 (2413)     | 8-0 5/8 (2454)  |
| <b>DLO (mm)</b>     | 2-6 7/16 (773) | 2-8 5/8 (829)  | 3-5 5/8 (1057)  | 3-6 7/16 (1078) |



|                     |                 |                |                 |
|---------------------|-----------------|----------------|-----------------|
| <b>Clad MO (mm)</b> | 7-9 1/4 (2368)  | 9-3 1/4 (2825) | 12-3 1/4 (3740) |
| <b>Wood MO (mm)</b> | 7-11 7/8 (2434) | 9-5 7/8 (2892) | 12-5 7/8 (3807) |
| <b>RO (mm)</b>      | 7-9 3/4 (2380)  | 9-3 3/4 (2838) | 12-3 3/4 (3753) |
| <b>FS (mm)</b>      | 7-8 3/4 (2355)  | 9-2 3/4 (2812) | 12-2 3/4 (3727) |
| <b>DLO (mm)</b>     | 2-0 7/16 (621)  | 2-6 7/16 (773) | 3-6 7/16 (1078) |



|                     |                 |                  |                  |
|---------------------|-----------------|------------------|------------------|
| <b>Clad MO (mm)</b> | 9-11 1/2 (3035) | 11-11 1/2 (3645) | 15-11 1/2 (4864) |
| <b>Wood MO (mm)</b> | 10-2 1/8 (3102) | 12-2 1/8 (3712)  | 16-2 1/8 (4931)  |
| <b>RO (mm)</b>      | 10-0 (3048)     | 12-0 (3658)      | 16-0 (4877)      |
| <b>FS (mm)</b>      | 9-11 (3023)     | 11-11 (3632)     | 15-11 (4851)     |
| <b>DLO (mm)</b>     | 2-0 7/16 (621)  | 2-6 7/16 (773)   | 3-6 7/16 (1078)  |



| 8-0 AND 9-0 HEIGHTS: |                 |                 |
|----------------------|-----------------|-----------------|
|                      | 8-0 Height      | 9-0 Height      |
| Clad MO (mm)         | 7-11 3/4 (2432) | 8-11 3/4 (2737) |
| Wood MO (mm)         | 8-1 1/16 (2465) | N/A             |
| RO (mm)              | 8-0 (2438)      | 9-0 (2743)      |
| FS (mm)              | 7-11 1/2 (2426) | 8-11 1/2 (2731) |
| DLO (mm)             | 7-2 1/2 (2197)  | 8-2 1/2 (2502)  |

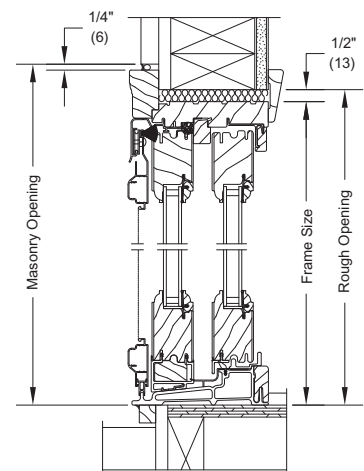
Details and Elevations not to scale.  
 R = Retro Size  
 • Lite patterns shown are for standard and SDL.  
 • All glass is tempered.  
 • Right or left hand operation is determined by the direction the door panel travels to open position, as viewed from exterior.  
 Please consult your local Marvin representative for masonry openings that include casings and subsills.  
 For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

Details and Elevations not to scale.  
 • CN 9-0 heights are limited to 1 and 2 wide configurations using CN2-6 and 3-0 panels.  
 \* Clad Only  
 Please consult your local Marvin representative for more information.  
 For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

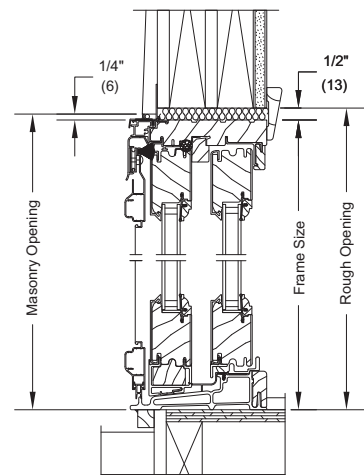
Ultimate Sliding Patio Door: USPD  
 Ultimate Wood Sliding Patio Door: UWSPD

# SLIDING PATIO DOOR

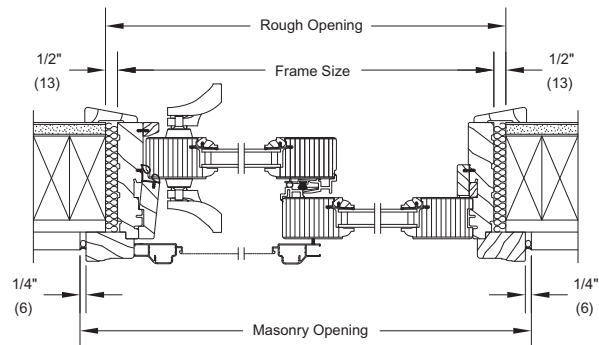
## CONSTRUCTION DETAILS



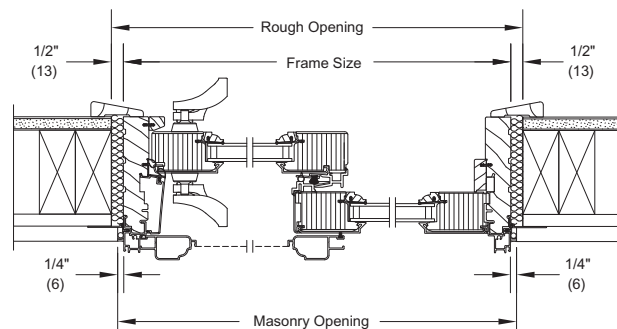
WOOD HEAD JAMB AND SILL WITH ULTIMATE TOP HUNG SCREEN



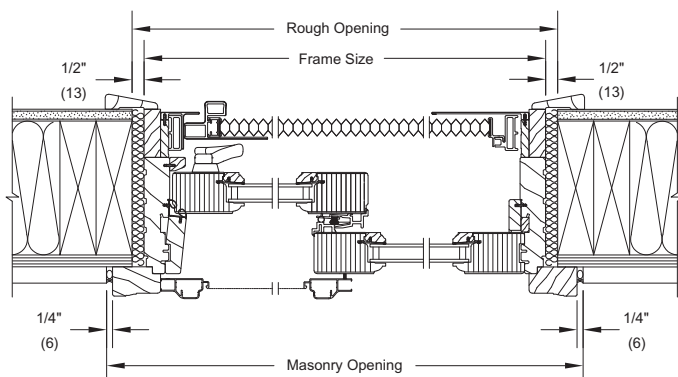
CLAD HEAD JAMB AND SILL WITH ULTIMATE TOP HUNG SCREEN



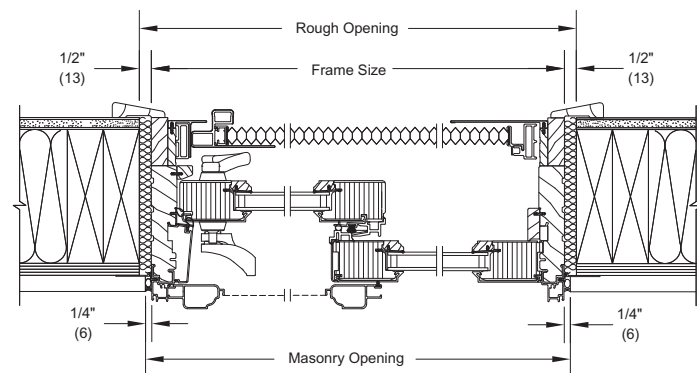
WOOD JAMB XO



CLAD JAMB XO



WOOD JAMB XO R WITH INTERIOR SHADES



CLAD JAMB XO R WITH INTERIOR SHADES

# DIRECT GLAZE DOOR TRANSOMS

1/0 HEIGHT (1/2 AND 1/6 HEIGHTS SEE BELOW)

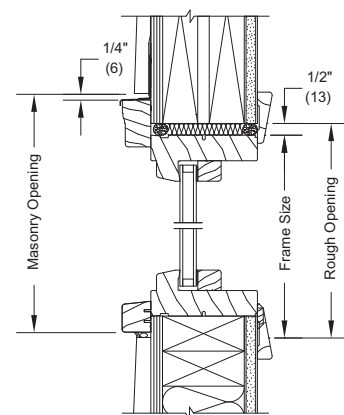
|              |                 |                 |                 |                 |                  |                  |
|--------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|
| Clad MO (mm) | 2-1 15/16 (659) | 2-7 15/16 (811) | 2-9 15/16 (862) | 3-1 15/16 (964) | 3-7 15/16 (1116) | 5-1 1/8 (1553)   |
| Wood MO (mm) | 2-4 9/16 (726)  | 2-10 9/16 (878) | 3-0 9/16 (929)  | 3-4 9/16 (1030) | 3-10 9/16 (1183) | 5-3 3/4 (1619)   |
| RO (mm)      | 2-2 7/16 (672)  | 2-8 7/16 (824)  | 2-10 7/16 (875) | 3-2 7/16 (976)  | 3-8 7/16 (1129)  | 5-1 5/8 (1565)   |
| FS (mm)      | 2-1 7/16 (646)  | 2-7 7/16 (799)  | 2-9 7/16 (849)  | 3-1 7/16 (951)  | 3-7 7/16 (1103)  | 5-0 5/8 (1540)   |
| DLO (mm)     | 1-9 1/2 (546)   | 2-3 1/2 (699)   | 2-5 1/2 (749)   | 2-9 1/2 (851)   | 3-3 1/2 (1003)   | 4-8 11/16 (1440) |

|                |      |      |      |      |      |      |
|----------------|------|------|------|------|------|------|
| 1-1/4 (311)    |      |      |      |      |      |      |
| 1-2 1/4 (362)  | 2010 | 2610 | 2810 | 3010 | 3610 | 5010 |
| 1-1/2 (318)    | 2012 | 2612 | 2812 | 3012 | 3612 | 5012 |
| 1-0 (305)      | 2016 | 2616 | 2816 | 3016 | 3616 | 5016 |
| 0-8 1/16 (205) |      |      |      |      |      |      |

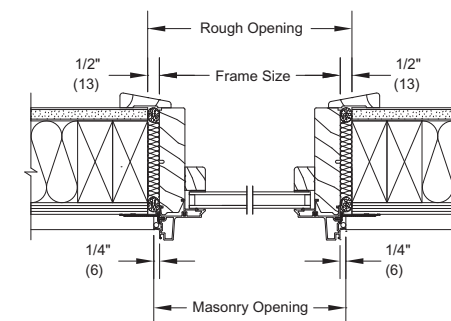
|              |                  |                  |                  |                  |
|--------------|------------------|------------------|------------------|------------------|
| Clad MO (mm) | 5-5 1/8 (1654)   | 6-1 1/8 (1857)   | 7-1 1/8 (2161)   | 8-1 1/8 (2467)   |
| Wood MO (mm) | 5-7 3/4 (1721)   | 6-3 3/4 (1924)   | 7-3 3/4 (2229)   | 8-3 3/4 (2534)   |
| RO (mm)      | 5-5 5/8 (1667)   | 6-1 5/8 (1870)   | 7-1 5/8 (2175)   | 8-1 5/8 (2480)   |
| FS (mm)      | 5-4 5/8 (1641)   | 6-0 5/8 (1845)   | 7-0 5/8 (2149)   | 8-0 5/8 (2454)   |
| DLO (mm)     | 5-0 11/16 (1541) | 5-8 11/16 (1745) | 6-8 11/16 (2049) | 7-8 11/16 (2354) |

|                |      |      |      |      |
|----------------|------|------|------|------|
| 1-1/4 (311)    |      |      |      |      |
| 1-2 1/4 (362)  | 5410 | 6010 | 7010 | 8010 |
| 1-1/2 (318)    | 5412 | 6012 | 7012 | 8012 |
| 1-0 (305)      | 5416 | 6016 | 7016 | 8016 |
| 0-8 1/16 (205) |      |      |      |      |

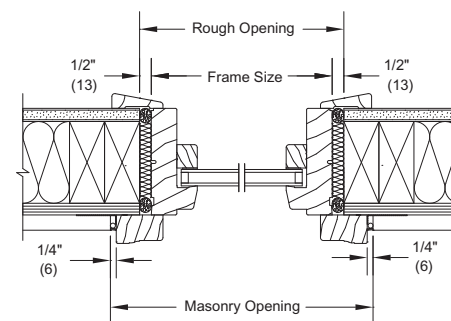
## CONSTRUCTION DETAILS



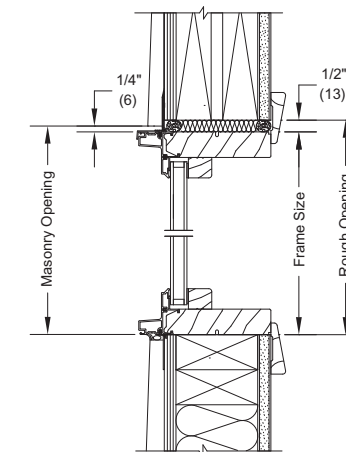
WOOD HEAD JAMB AND SILL - DIRECT GLAZE



CLAD JAMB - DIRECT GLAZE



WOOD JAMB - DIRECT GLAZE



CLAD HEAD JAMB AND SILL - DIRECT GLAZE

1-2 and 1-6 Heights:

|              | 1-2 Height      | 1-6 Height     |
|--------------|-----------------|----------------|
| Clad MO (mm) | 1-2 1/4 (362)   | 1-6 1/4 (464)  |
| Wood MO (mm) | 1-4 1/4 (413)   | 1-8 1/4 (514)  |
| RO (mm)      | 1-2 1/2 (368)   | 1-6 1/2 (470)  |
| FS (mm)      | 1-2 (356)       | 1-6 (457)      |
| DLO (mm)     | 0-10 1/16 (256) | 1-2 1/16 (357) |

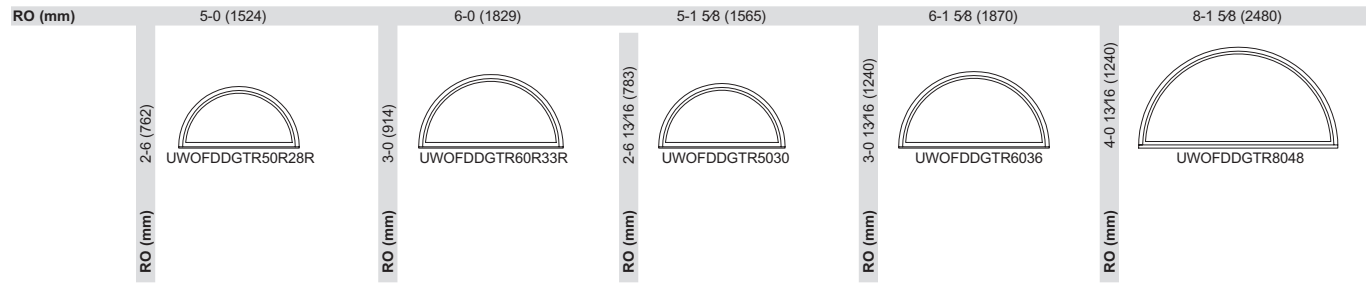
Details and Elevations not to scale.  
 • Back rabbet casing shown. Non-back rabbet casing used on Wood Ultimate Inswing and Outswing French Doors

Please consult your local Marvin representative for masonry openings that include casings and subsills.  
 For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

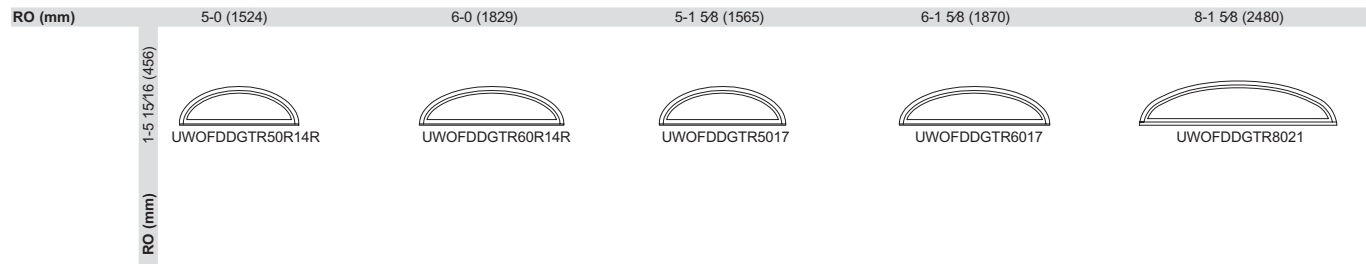
Ultimate Direct Glaze Door Transoms: UDGTR

## WOOD DIRECT GLAZE ROUND TOP DOOR TRANSOMS

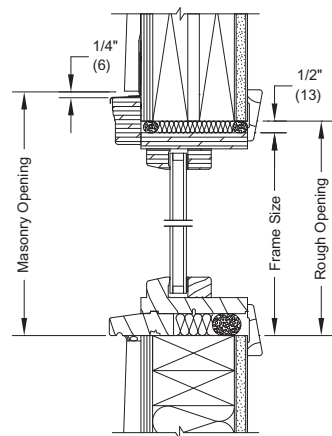
RT1 TRUE HALF CIRCLE STANDARD SIZES - DIRECT GLAZE



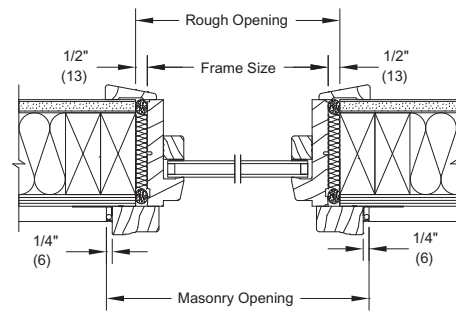
RT29 ELLIPTICAL STANDARD SIZES - DIRECT GLAZE



### CONSTRUCTION DETAILS



HEAD JAMB AND SILL - DIRECT GLAZE\*



JAMB - DIRECT GLAZE\*

Details and Elevations not to scale.

R = Retro Size

- If these units are not used as transoms, add 15/16" (24) to rough opening heights for subsill.
- Non-back rabbet casing shown. Back rabbet casing used on Ultimate Wood Sliding French Doors, Wood Patio Doors, Wood 2 1/4" Inswing French Doors and Wood Commercial Doors.

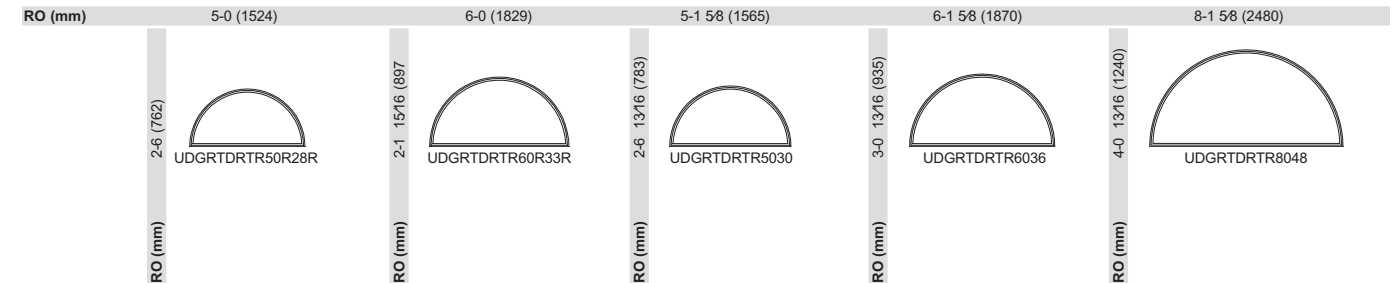
\* Clad Only

Please consult your local Marvin representative for more information. For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

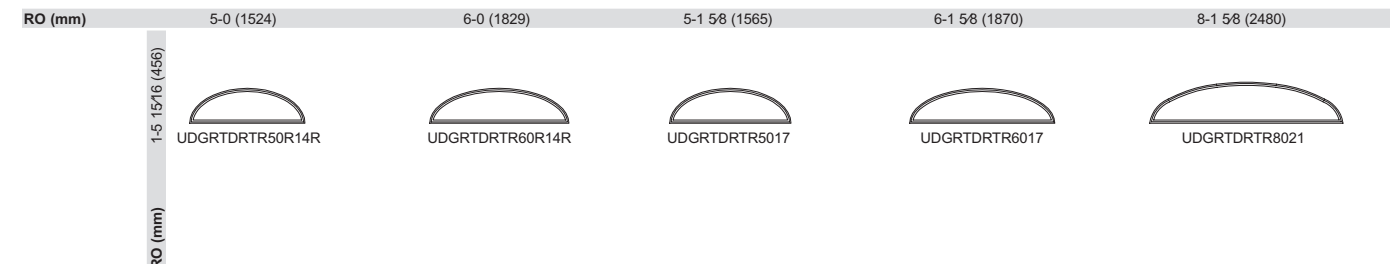
Ultimate Wood Direct Glaze Round Top Door Transoms: UWOFDDGTR

## DIRECT GLAZE ROUND TOP DOOR TRANSOMS

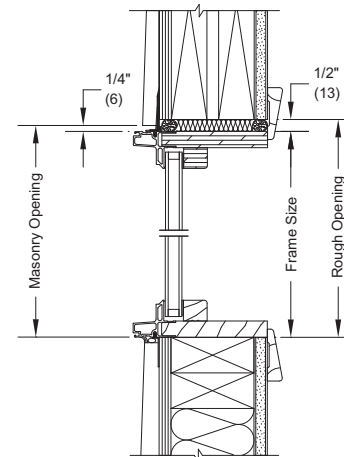
RT1 TRUE HALF CIRCLE STANDARD SIZES - DIRECT GLAZE



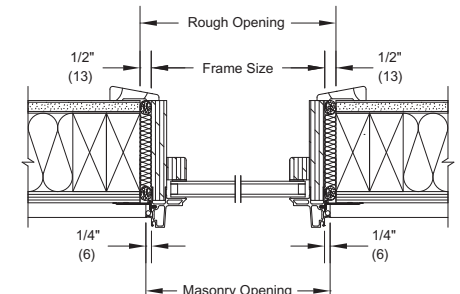
RT29 ELLIPTICAL STANDARD SIZES DIRECT - GLAZE



### CONSTRUCTION DETAILS



HEAD JAMB AND SILL - DIRECT GLAZE



JAMB - DIRECT GLAZE

Ultimate Direct Glaze Round Top Door Transoms: UDGRDTR

## WOOD / CLAD ROUND TOP GUIDE

### WOOD ROUND TOP GUIDE TO STANDARD ROUND TOPS AND THE UNITS THEY FIT OVER

#### ULTIMATE CASEMENT / AWNING SERIES

| Unit Type                     | RT Call Number |
|-------------------------------|----------------|
| 1W20 CM                       | UWRT2010 CM    |
|                               | UWQCIR2020 CM  |
| 1W24 CM/AWN                   | UWRT2412 CM    |
|                               | UWQCIR2424 CM  |
|                               | UWRT24__CM*    |
| 1W28 CM/AWN                   | UWRT2814 CM    |
|                               | UWQCIR2828 CM  |
|                               | UWRT28__CM*    |
| 1W32CM or 2W16 CM             | UWRT3216 CM    |
|                               | UWQCIR3232 CM  |
|                               | UWRT32__CM*    |
| 1W36 CM/AWN                   | UWRT3618 CM    |
|                               | UWQCIR3636 CM  |
|                               | UWRT36__CM*    |
| 1W40 AWN, 2W20 CM or 1W40 CMP | UWRT4020 CM    |
|                               | UWQCIR4040 CM  |
|                               | UWRT4017 CM    |
|                               | UWRT40__CM*    |
| 1W48 AWN, 2W24 CM or 1W48 CMP | UWRT4824 CM    |
|                               | UWQCIR4848 CM  |
|                               | UWRT4817 CM    |
|                               | UWRT48__CM*    |
| 1W56 CMP or 2W28 CM           | UWRT5628 CM    |
|                               | UWRT5617 CM    |
|                               | UWRT56__CM*    |
| 1W60 CMP or 3W20 CM           | UWRT6026 CM    |
|                               | UWRT6432 CM    |
| 1W64 CMP or 2W32 CM           | UWRT7236 CM    |
|                               | UWRT7217 CM    |
|                               | UWRT72__CM*    |
| 3W24 CM                       | UWRT8442 CM    |
| 3W28 CM/AWN                   | UWRT8417CM     |
| 2W48 AWN or 4W24 CM           | UWRT9648 CM    |
| 24-60-24 TPU                  | UWRT10854 CM   |
| 5W24 CM/AWN                   | UWRT12060 CM   |

#### ULTIMATE DOUBLE HUNG SERIES

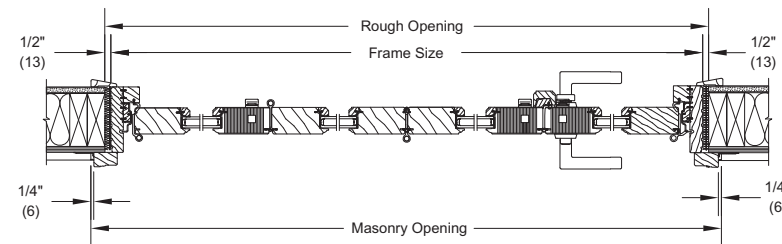
| Unit Type | RT Call Number |
|-----------|----------------|
| 1W20 DH   | UWRT25__DH*    |
| 1W24 DH   | UWRT2914 DH    |
|           | UWRT29__DH*    |
| 1W26 DH   | UWRT3115 DH    |
|           | UWRT31__DH*    |
| 1W28 DH   | UWRT3316 DH    |
|           | UWRT33__DH*    |
| 1W30 DH   | UWRT3517 DH    |
|           | UWRT35__DH*    |
| 1W32 DH   | UWRT3718 DH    |
|           | UWRT37__DH*    |
| 1W36 DH   | UWRT4120 DH    |
|           | UWRT41__DH*    |
| 1W40 DH   | UWRT4522 DH    |
|           | UWRT 45__DH*   |
| 2W20 DH   | UWRT5025 DH    |
|           | UWRT5118 DH    |
|           | UWRT51__DH*    |
| 2W24 DH   | UWRT5828 DH    |
|           | UWRT5918 DH    |
|           | UWRT59__DH*    |
| 2W28 DH   | UWRT6632 DH    |
|           | UWRT6718 DH    |
|           | UWRT67__DH*    |
| 2W32 DH   | UWRT7437 DH    |
|           | UWRT7518 DH    |
|           | UWRT75__DH*    |

#### DOOR SERIES

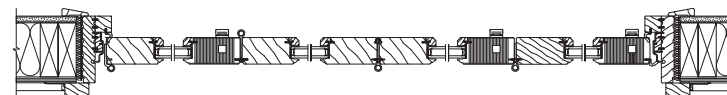
| Unit Type             | RT Call Number |
|-----------------------|----------------|
| 5066                  | UWDR RT 5028   |
| FDR/Uil. FD, SPD, SFD | UWDR RT 5014   |
| 6066                  | UWDR RT 6033   |
| FDR/Uil. FD, SPD, SFD | UWDR RT 6014   |
| 5068/70/80, SPD       | UWDR RT 5030   |
| FRD/Uil. FD, SFD      | UWDR RT 5017   |
| 6068/70/80, SPD       | UWDR RT 6036   |
| FDR/Uil. FD, SFD      | UWDR RT 6017   |
| 8068/70/80            | UWDR RT 8048   |
| FDR/Uil. SFD          | UWDR RT 8021   |

## WOOD BI-FOLD DOOR

### WOOD CONSTRUCTION DETAILS - PERFORMANCE, LOW PROFILE, AND FLOOR CHANNEL SILL



JAMBS  
FOUR PANEL - 3L1R



JAMBS  
FOUR PANEL - 4L



JAMBS  
FOUR PANEL - 2L2R

### CLAD ROUND TOP GUIDE TO STANDARD ROUND TOPS AND THE UNITS THEY FIT OVER

#### ULTIMATE CASEMENT / AWNING SERIES

| Unit Type                     | RT Call Number |
|-------------------------------|----------------|
| 1W20 CM                       | UCRT2010 CM    |
|                               | UCQCIR2020 CM  |
| 1W24 CM/AWN                   | UCRT2412 CM    |
|                               | UCQCIR2424 CM  |
|                               | UCRT24__CM*    |
| 1W28 CM/AWN                   | UCRT2814 CM    |
|                               | UCQCIR2828 CM  |
|                               | UCRT28__CM*    |
| 1W32CM or 2W16 CM             | UCRT3216 CM    |
|                               | UCQCIR3232 CM  |
|                               | UCRT32__CM*    |
| 1W36 CM/AWN                   | UCRT3618 CM    |
|                               | UCQCIR3636 CM  |
|                               | UCRT36__CM*    |
| 1W40 AWN, 2W20 CM or 1W40 CMP | UCRT4020 CM    |
|                               | UCQCIR4040 CM  |
|                               | UCRT4017 CM    |
|                               | UCRT40__CM*    |
| 1W48 AWN, 2W24 CM or 1W48 CMP | UCRT4824 CM    |
|                               | UCQCIR4848 CM  |
|                               | UCRT4817 CM    |
|                               | UCRT48__CM*    |
| 1W56 CMP or 2W28 CM           | UCRT5628 CM    |
|                               | UCRT5617 CM    |
|                               | UCRT56__CM*    |
| 1W60 CMP or 3W20 CM           | UCRT6026 CM    |
|                               | UCRT6432 CM    |
| 1W64 CMP or 2W32 CM           | UCRT7236 CM    |
|                               | UCRT7217 CM    |
|                               | UCRT72__CM*    |
| 3W24 CM                       | UCRT8442 CM    |
| 3W28 CM/AWN                   | UCRT8417CM     |
| 2W48 AWN or 4W24 CM           | UCRT9648 CM    |
| 24-60-24 TPU                  | UCRT10854 CM   |
| 5W24 CM/AWN                   | UCRT12060 CM   |

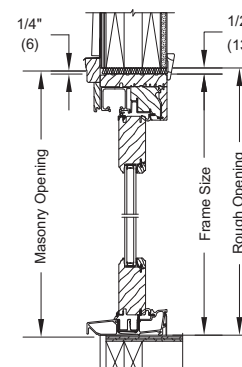
#### ULTIMATE DOUBLE HUNG SERIES

| Unit Type | RT Call Number |
|-----------|----------------|
| 1W20 DH   | UCRT25__DH*    |
| 1W24 DH   | UCRT2914 DH    |
|           | UCRT29__DH*    |
| 1W26 DH   | UCRT3115 DH    |
|           | UCRT31__DH*    |
| 1W28 DH   | UCRT3316 DH    |
|           | UCRT33__DH*    |
| 1W30 DH   | UCRT3517 DH    |
|           | UCRT35__DH*    |
| 1W32 DH   | UCRT3718 DH    |
|           | UCRT37__DH*    |
| 1W36 DH   | UCRT4120 DH    |
|           | UCRT41__DH*    |
| 1W40 DH   | UCRT4522 DH    |
|           | UCRT 45__DH*   |
| 2W20 DH   | UCRT5025 DH    |
|           | UCRT5118 DH    |
|           | UCRT51__DH*    |
| 2W24 DH   | UCRT5828 DH    |
|           | UCRT5918 DH    |
|           | UCRT59__DH*    |
| 2W28 DH   | UCRT6632 DH    |
|           | UCRT6718 DH    |
|           | UCRT67__DH*    |
| 2W32 DH   | UCRT7437 DH    |
|           | UCRT7518 DH    |
|           | UCRT75__DH*    |

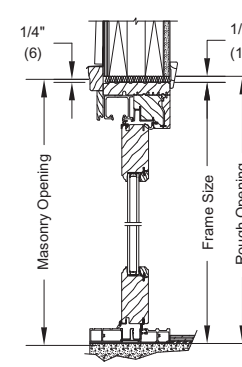
#### DOOR SERIES

| Unit Type        | RT Call Number |
|------------------|----------------|
| 5066, SPD        | UCDR RT 5028   |
| FDR/Uil. FD, SFD | UCDR RT 5014   |
| 6066 SPD         | UCDR RT 6033   |
| FDR/Uil. FD, SFD | UCDR RT 6014   |
| 5068/70/80, SPD  | UCDR RT 5030   |
| FRD/Uil. FD, SFD | UCDR RT 5017   |
| 6068/70/80, SPD  | UCDR RT 6036   |
| FRD/Uil. FD, SFD | UCDR RT 6017   |
| 8068/70/80       | UCDR RT 8048   |
| FDR/Uil. SFD     | UCDR RT 8021   |

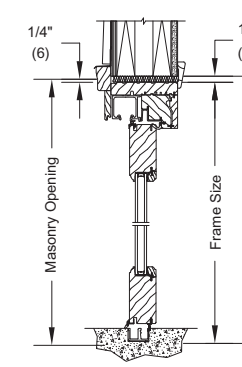
### CONSTRUCTION DETAILS - PERFORMANCE, LOW PROFILE AND FLOOR CHANNEL SILLS



HEAD JAMB AND SILL  
SHOWN WITH PERFORMANCE SILL



HEAD JAMB AND SILL  
SHOWN WITH LOW PROFILE SILL



HEAD JAMB AND SILL  
SHOWN WITH FLOOR CHANNEL SILL

Details and Elevations not to scale.

\* The underscore indicates that a range of heights are available for eyebrow above springline units. For example 24\_\_ means 24 wide and a range of heights.

Please consult your local Marvin representative for more information. For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

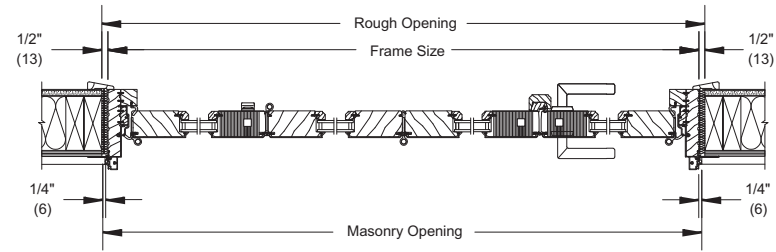
Details and Elevations not to scale.

- Configurations available from 1 to 16 operating panels
- Operating panel width: minimum 29 1/16"; maximum 41 1/16"
- Rough opening minimum size: 34" x 51 1/2"
- Rough opening maximum size: 665 1/4" x 114 3/4"

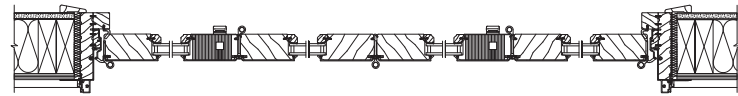
Please consult your local Marvin representative for more information. For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

# BI-FOLD DOOR

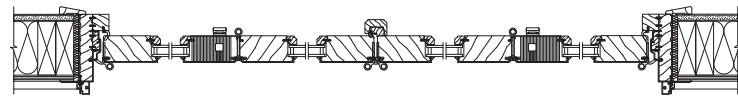
CLAD CONSTRUCTION DETAILS - PERFORMANCE, LOW PROFILE, AND FLOOR CHANNEL SILL



JAMBS  
FOUR PANEL - 3L1R

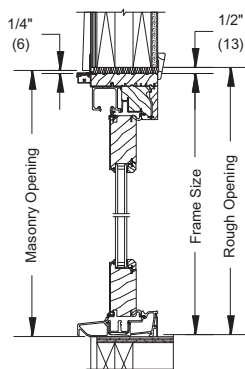


JAMBS  
FOUR PANEL - 4L

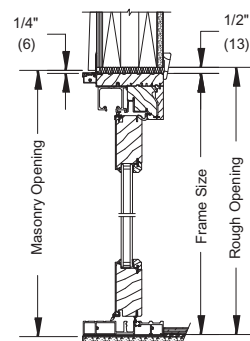


JAMBS  
FOUR PANEL - 2L2R

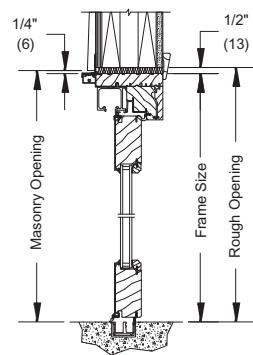
CONSTRUCTION DETAILS - PERFORMANCE, LOW PROFILE, AND FLOOR CHANNEL SILLS



HEAD JAMB AND SILL  
SHOWN WITH PERFORMANCE SILL



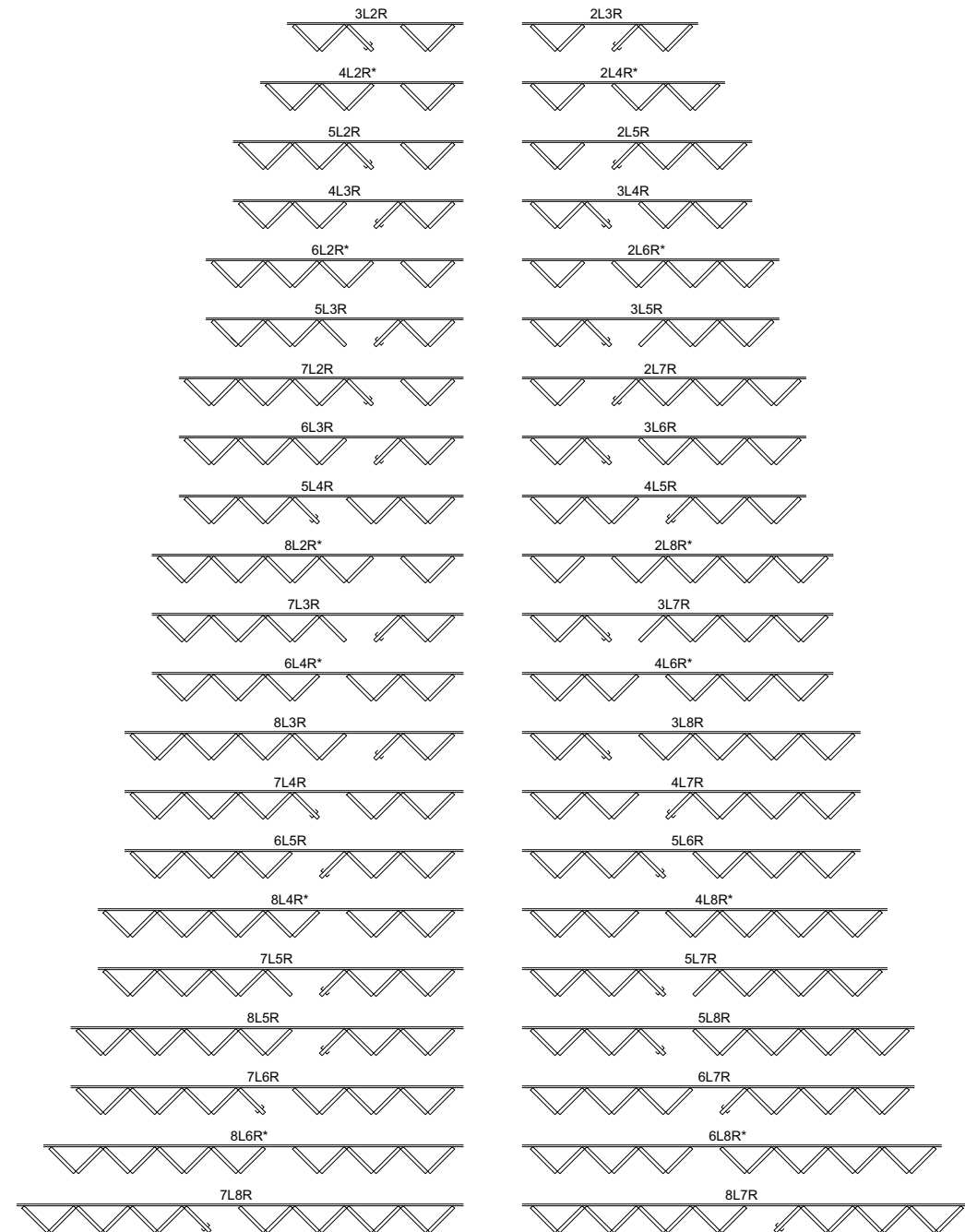
HEAD JAMB AND SILL  
SHOWN WITH LOW PROFILE SILL



HEAD JAMB AND SILL  
SHOWN WITH FLOOR CHANNEL SILL

# WOOD BI-FOLD DOOR / BI-FOLD DOOR

WOOD AND CLAD PANEL CONFIGURATIONS - BI PARTING (UN-EQUAL) UNITS



Details and Elevations not to scale.

- Configurations available from 1 to 16 operating panels
- Operating panel width: minimum 29 1/16"; maximum 41 1/16"
- Rough opening minimum size: 34" x 51 1/2"
- Rough opening maximum size: 665 1/4" x 114 3/4"

Please consult your local Marvin representative for more information. For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

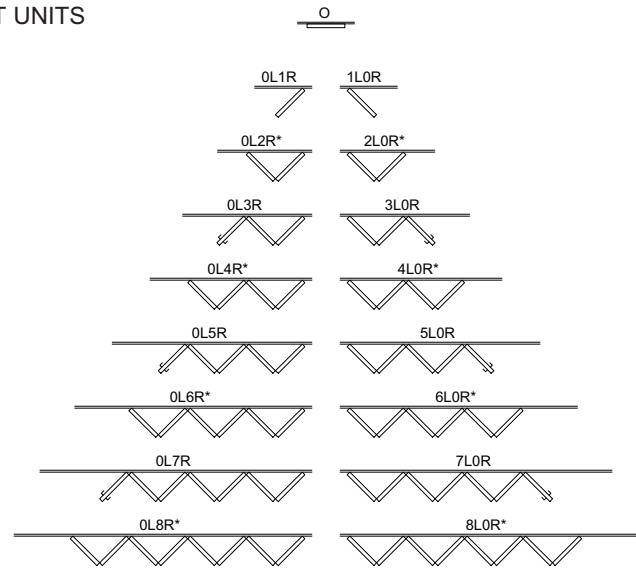
Details and Elevations not to scale.

\* Not accessible from exterior. Please consult your local Marvin representative for more information. For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

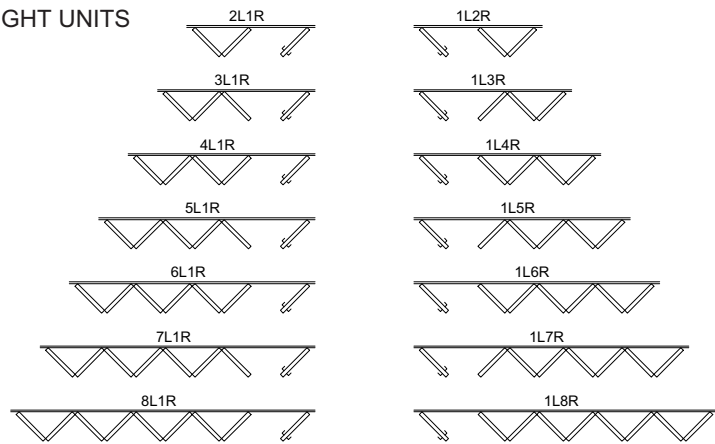
## WOOD BI-FOLD DOOR / BI-FOLD DOOR

WOOD AND CLAD PANEL CONFIGURATIONS - STATIONARY UNIT

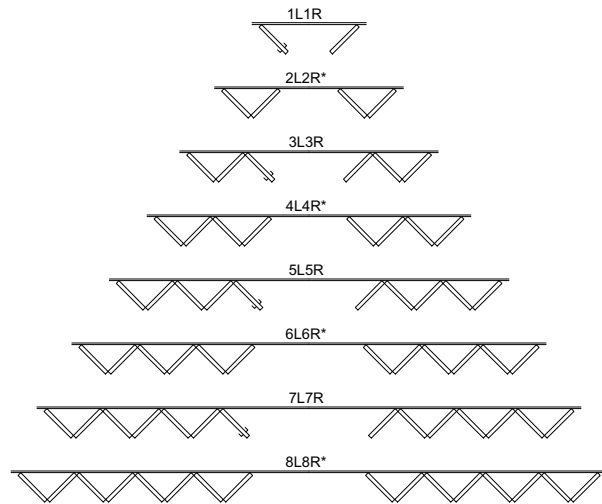
### UNI-DIRECTIONAL LEFT OR RIGHT UNITS



### UNI-DIRECTIONAL LEFT OR RIGHT UNITS WITH OPERATING PANELS



### BI PARTING (EQUAL) UNITS

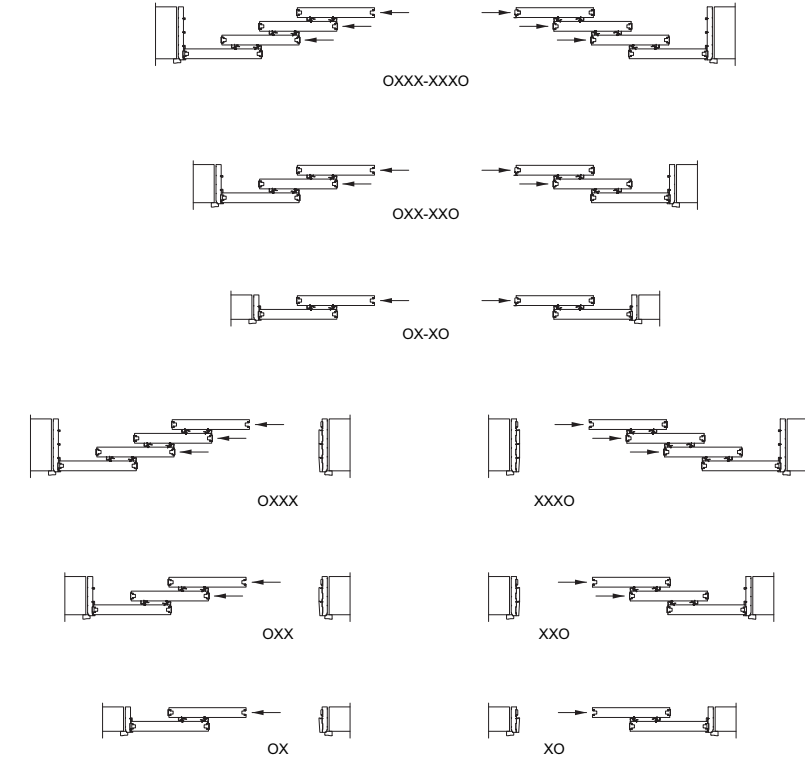


Details and Elevations not to scale.  
 \* Not accessible from exterior.  
 Please consult your local Marvin representative for more information.  
 For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

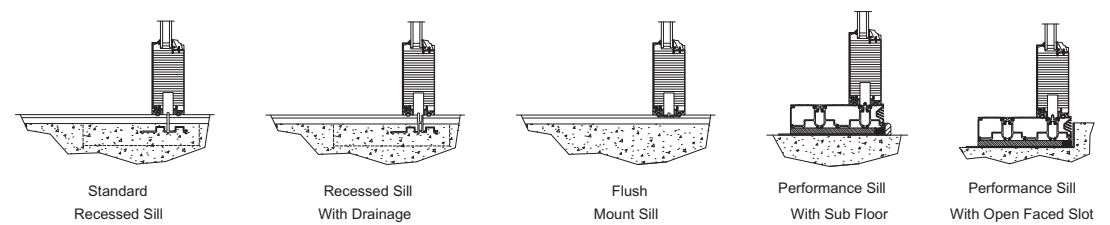
## WOOD LIFT AND SLIDE / LIFT AND SLIDE DOOR

PROMOTED SIZES AND CONFIGURATIONS - STACKED UNITS

| STACKED UNITS<br>PROMOTED SIZES AND CONFIGURATIONS<br>BASED ON: 3/0, 4/0, 5/0, 6/0 PANEL WIDTHS<br>7/0, 8/0, 10/0 PANEL HEIGHTS |              |                |                 |                   |                |
|---|--------------|----------------|-----------------|-------------------|----------------|
| 2W OX / XO  | 3W XXO / OXX | 4W OXXX / XXXO | 4W OX-XO L OR R | 6W OXX-XXO L OR R | 8W OXXX-XXXO L |
| 6070  | 9070         | 12070          | 12070           | 18070             | 24070          |
| 8070  | 12070        | 16070          | 16070           | 24070             | 32070          |
| 10070   | 15070        | 20070          | 20070           | 30070             | 40070          |
| 12070   | 18070        | 24070          | 24070           | 36070             | 48070          |
| 6080  | 9080         | 12080          | 12080           | 18080             | 24080          |
| 8080  | 12080        | 16080          | 16080           | 24080             | 32080          |
| 10080   | 15080        | 20080          | 20080           | 30080             | 40080          |
| 12080   | 18080        | 24080          | 24080           | 36080             | 48080          |
| 60100   | 90100        | 120100         | 120100          | 180100            | 240100         |
| 80100   | 120100       | 160100         | 160100          | 240100            | 320100         |
| 100100  | 150100       | 200100         | 200100          | 300100            | 400100         |
| 120100  | 180100       | 240100         | 240100          | 360100            | 480100         |



### OPTIONAL SILLS - SHOWN IN CLAD ALSO AVAILABLE IN WOOD



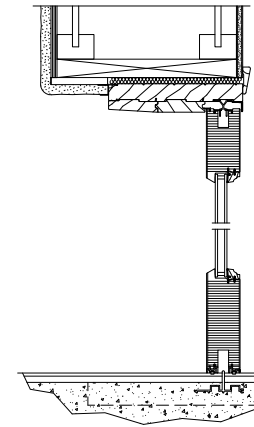
# WOOD LIFT AND SLIDE / LIFT AND SLIDE DOOR

PROMOTED SIZES AND CONFIGURATIONS - POCKET UNITS

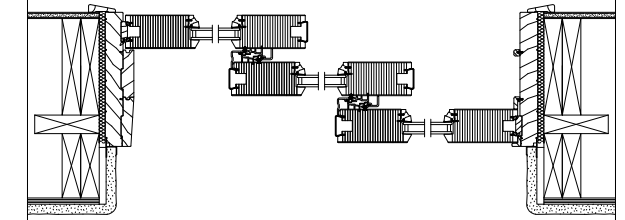
| POCKET UNITS<br>PROMOTED SIZES AND CONFIGURATIONS<br>BASED ON: 3/0, 4/0, 5/0, 6/0 PANEL WIDTHS<br>7/0, 8/0, 10/0 PANEL HEIGHTS |               |                 |           |           |             |               |
|--|---------------|-----------------|-----------|-----------|-------------|---------------|
| 1 POCKET   | 1 POCKET      | 1 POCKET        | 2 POCKETS | 2 POCKETS | 2 POCKETS   | 2 POCKETS     |
| 2 PANELS   | 3 PANELS      | 4 PANELS        | 2 PANELS  | 4 PANELS  | 6 PANELS    | 8 PANELS      |
| (PXX / XXP)  | (PXXX / XXXP) | (PXXXX / XXXXP) | (PX-XP)   | (PXX-XXP) | (PXXX-XXXP) | (PXXXX-XXXXP) |
| 6070   | 9070          | 12070           | 6070      | 12070     | 18070       | 24070         |
| 8070   | 12070         | 16070           | 8070      | 16070     | 24070       | 32070         |
| 10070  | 15070         | 20070           | 10070     | 20070     | 30070       | 40070         |
| 12070  | 18070         | 24070           | 12070     | 24070     | 36070       | 48070         |
| 6080   | 9080          | 12080           | 6080      | 12080     | 18080       | 24080         |
| 8080   | 12080         | 16080           | 8080      | 16080     | 24080       | 32080         |
| 10080  | 15080         | 20080           | 10080     | 20080     | 30080       | 40080         |
| 12080  | 18080         | 24080           | 12080     | 24080     | 36080       | 48080         |
| 60100  | 90100         | 120100          | 60100     | 120100    | 180100      | 240100        |
| 80100  | 120100        | 160100          | 80100     | 160100    | 240100      | 320100        |
| 100100   | 150100        | 200100          | 100100    | 200100    | 300100      | 400100        |
| 120100   | 180100        | 240100          | 120100    | 240100    | 360100      | 480100        |

# WOOD LIFT AND SLIDE DOOR

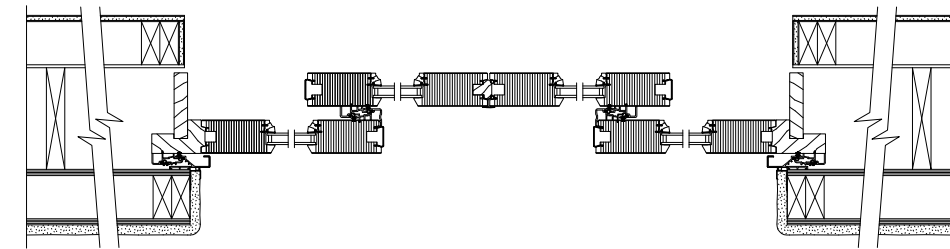
CONSTRUCTION DETAILS - TRADITIONAL PANELS (TALL BOTTOM RAIL)



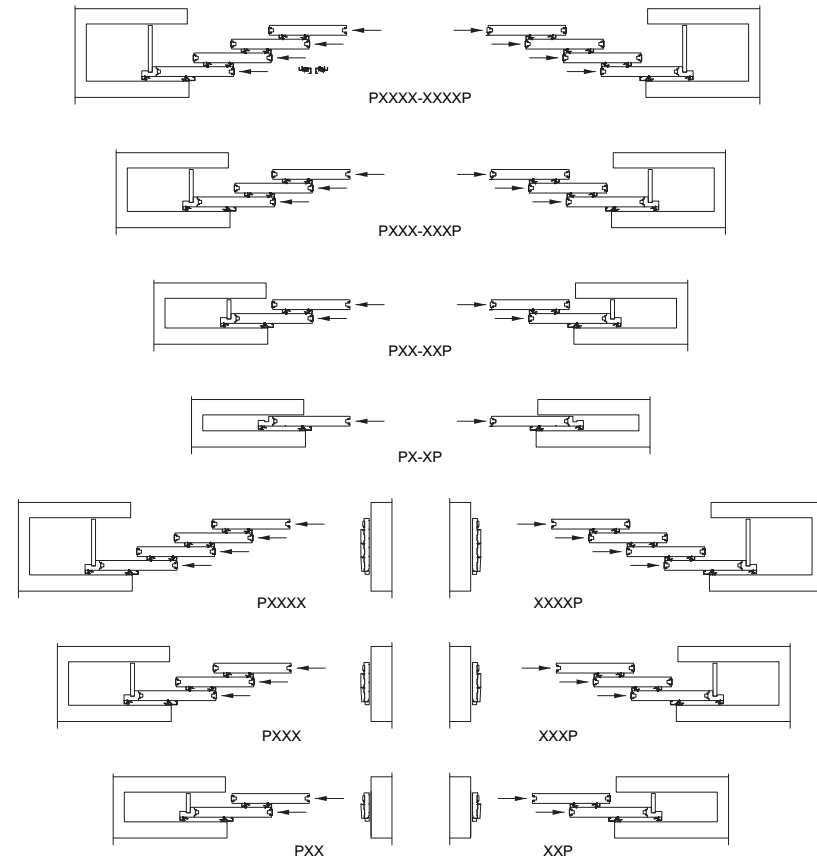
HEAD JAMB AND SILL - STACKED  
STANDARD RECESSED SILL  
XXO TRADITIONAL PANELS - UNI-DIRECTIONAL



JAMBS - STACKED  
XXO TRADITIONAL PANELS - UNI-DIRECTIONAL



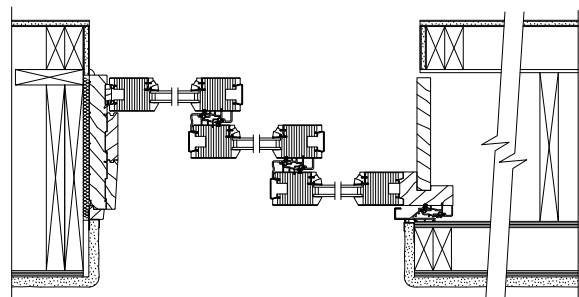
JAMBS - POCKET  
PXX-XXP TRADITIONAL PANELS - BI PARTING



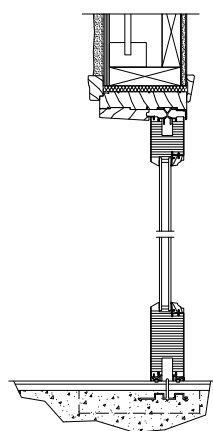
Details and Elevations not to scale.  
Please consult your local Marvin representative for more information.  
For further details and drawings visit the 'Tools and Documents'  
section at Marvin.com.

## WOOD LIFT AND SLIDE DOOR

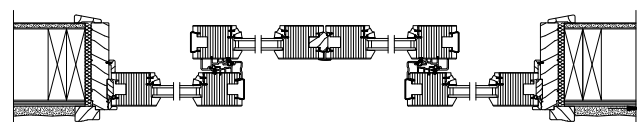
CONSTRUCTION DETAILS - CONTEMPORARY PANELS (SHORT BOTTOM RAIL)



JAMBS - POCKET  
XXXP CONTEMPORARY PANELS - UNI-DIRECTIONAL



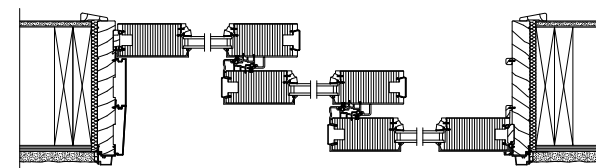
HEAD JAMB AND SILL - STACKED  
STANDARD RECESSED SILL  
OX-XO CONTEMPORARY PANELS -  
BI PARTING



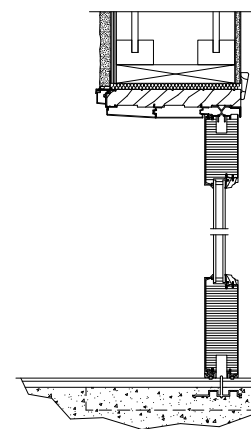
JAMBS - STACKED  
OX-XO CONTEMPORARY PANELS - BI PARTING

## LIFT AND SLIDE DOOR

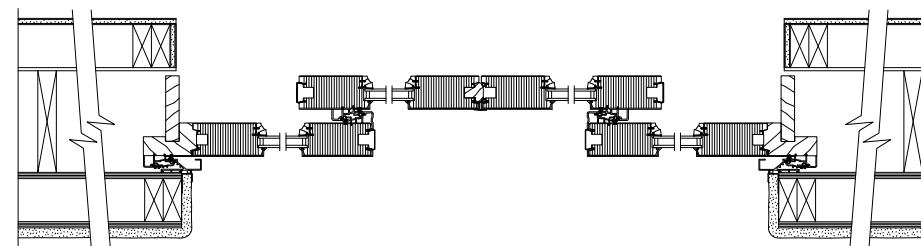
CONSTRUCTION DETAILS - TRADITIONAL PANELS (TALL BOTTOM RAIL)



JAMBS - STACKED  
XXO TRADITIONAL PANELS - UNI-DIRECTIONAL



HEAD JAMB AND SILL - STACKED  
STANDARD RECESSED SILL  
XXO TRADITIONAL PANELS - UNI-DIRECTIONAL

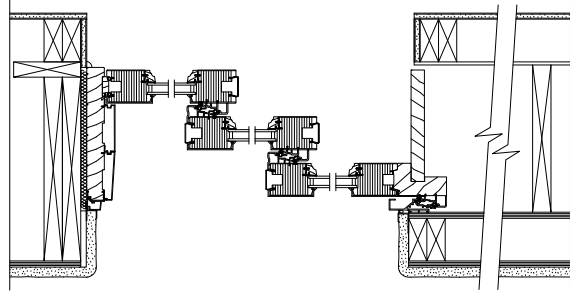


JAMBS - POCKET  
PXX-XXP TRADITIONAL PANELS - BI PARTING

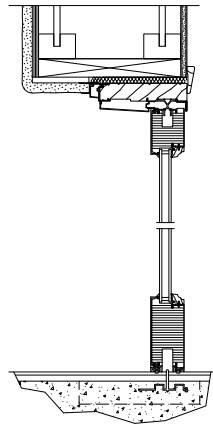
Details and Elevations not to scale.  
Please consult your local Marvin representative for more information.  
For further details and drawings visit the 'Tools and Documents'  
section at Marvin.com.

### LIFT AND SLIDE DOOR

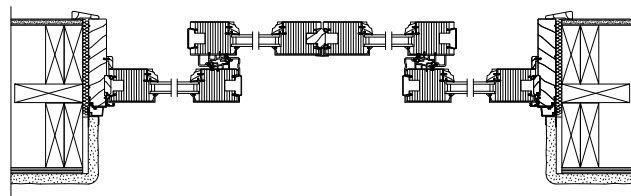
CONSTRUCTION DETAILS - CONTEMPORARY PANELS (SHORT BOTTOM RAIL)



JAMBS POCKET  
XXXP CONTEMPORARY PANELS - UNI-DIRECTIONAL



HEAD JAMB AND SILL - STACKED  
STANDARD RECESSED SILL  
OX-XO CONTEMPORARY PANELS - BI PARTING



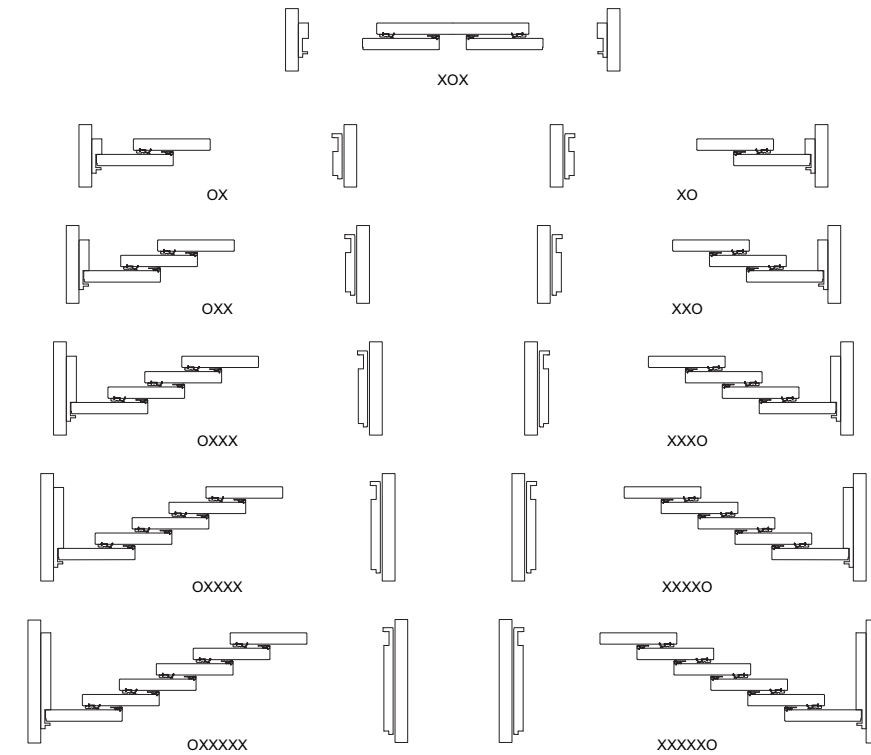
JAMBS - STACKED  
OX-XO CONTEMPORARY PANELS - BI PARTING

Details and Elevations not to scale.  
Please consult your local Marvin representative for more information.  
For further details and drawings visit the 'Tools and Documents'  
section at Marvin.com.

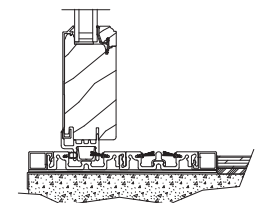
### MULTI-SLIDE DOOR

STANDARD SIZES AND CONFIGURATIONS - UNI-DIRECTIONAL STACKED

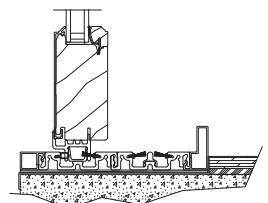
| 2W OX/XO | 3W OXX/XXO | 4W OXXX/XXXO | 5W OXXXX/XXXXXO | 6W OXXXXX/XXXXXO |
|----------|------------|--------------|-----------------|------------------|
| 6070     | 9070       | 12070        | 15070           | 18070            |
| 8070     | 12070      | 16070        | 20070           | 24070            |
| 10070    | 15070      | 20070        | 25070           | 30070            |
| 12070    | 18070      | 24070        | 30070           | 36070            |
| 6080     | 9080       | 12080        | 15080           | 18080            |
| 8080     | 12080      | 16080        | 20080           | 24080            |
| 10080    | 15080      | 20080        | 25080           | 30080            |
| 12080    | 18080      | 24080        | 30080           | 36080            |
| 6090     | 9090       | 12090        | 15090           | 18090            |
| 8090     | 12090      | 16090        | 20090           | 24090            |
| 10090    | 15090      | 20090        | 25090           | 30090            |
| 12090    | 18090      | 24090        | 30090           | 36090            |
| 60100    | 90100      | 120100       | 150100          | 180100           |
| 80100    | 120100     | 160100       | 200100          | 240100           |
| 100100   | 150100     | 200100       | 250100          | 300100           |
| 120100   | 180100     | 240100       | 300100          | 360100           |
| 60120    | 90120      | 120120       | 150120          | 180120           |
| 80120    | 120120     | 160120       | 200120          | 240120           |
| 100120   | 150120     | 200120       | 250120          | 300120           |
| 120120   | 180120     | 240120       | 300120          | 360120           |



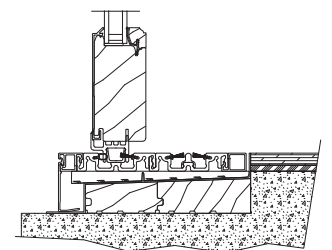
#### OPTIONAL SILLS - STACKED AND POCKET UNITS



FLUSH SILL



PERFORMANCE SILL

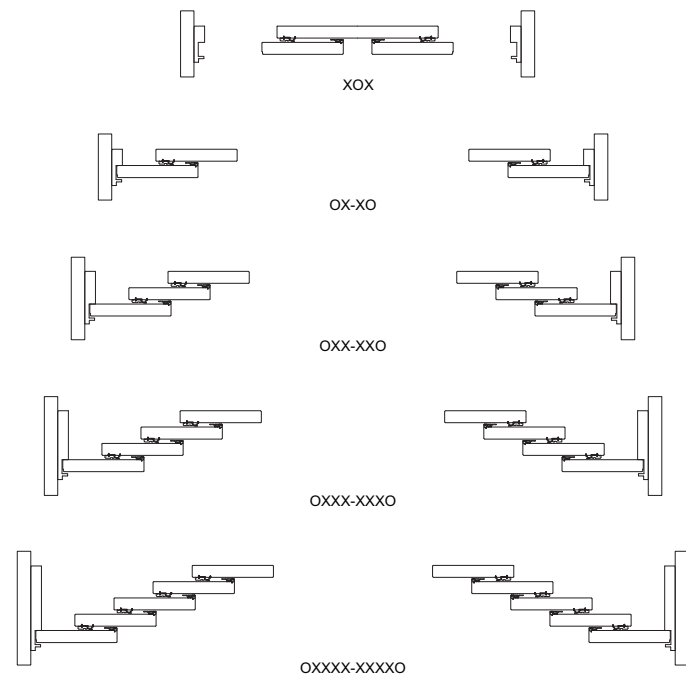


HIGH PERFORMANCE SILL

### MULTI-SLIDE DOOR

#### STANDARD SIZES AND CONFIGURATIONS - BI PARTING STACKED

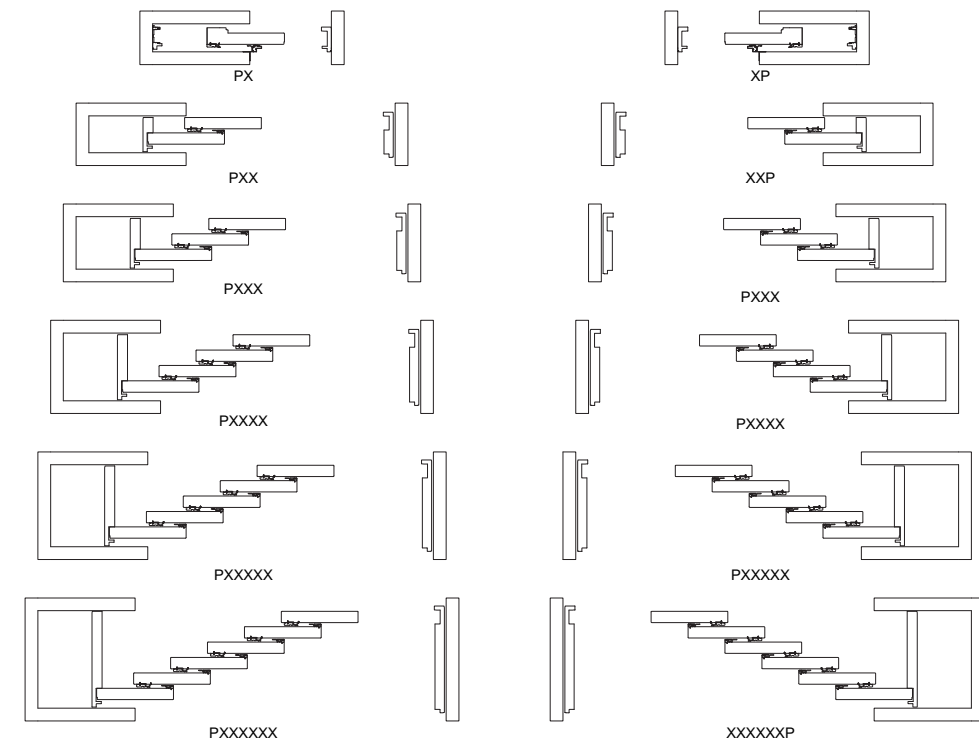
| 2W OX-XO | 3W OXX-XXO | 4W OXXX-XXXO | 5W OXXXX-XXXXO | 3W XOX |
|----------|------------|--------------|----------------|--------|
| 12070    | 18070      | 24070        | 30070          | 12070  |
| 16070    | 24070      | 32070        | 40070          | 16070  |
| 20070    | 30070      | 40070        | 50070          |        |
| 24070    | 36070      | 48070        | 60070          |        |
| 12080    | 18080      | 24080        | 30080          | 12080  |
| 16080    | 24080      | 32080        | 40080          | 15080  |
| 20080    | 30080      | 40080        | 50080          |        |
| 24080    | 36080      | 48080        | 60080          |        |
| 12090    | 18090      | 24090        | 30090          | 12090  |
| 16090    | 24090      | 32090        | 40090          | 120100 |
| 20090    | 30090      | 40090        | 50090          |        |
| 24090    | 36090      | 48090        | 60090          |        |
| 120100   | 180100     | 240100       | 300100         | 120100 |
| 160100   | 240100     | 320100       | 400100         |        |
| 200100   | 300100     | 400100       | 500100         |        |
| 240100   | 360100     | 480100       | 600100         |        |
| 120120   | 180120     | 240120       | 300120         | 120120 |
| 160120   | 240120     | 320120       | 400120         |        |
| 200120   | 300120     | 400120       | 500120         |        |
| 240120   | 360120     | 480120       | 600120         |        |



### MULTI-SLIDE DOOR

#### STANDARD SIZES AND CONFIGURATIONS - UNI-DIRECTIONAL POCKET

| 1 PANEL<br>PX/XP | 2 PANEL<br>PXX/XXP | 3 PANEL<br>PXXX/PXXX | 4 PANEL<br>PXXXX/XXXXP | 5 PANEL<br>PXXXXX/XXXXXP | 6 PANEL<br>PXXXXXX/XXXXXXP |
|------------------|--------------------|----------------------|------------------------|--------------------------|----------------------------|
| 3070             | 6070               | 9070                 | 12070                  | 15070                    | 18070                      |
| 4070             | 8070               | 12070                | 16070                  | 20070                    | 24070                      |
| 5070             | 10070              | 15070                | 20070                  | 25070                    | 30070                      |
| 6070             | 12070              | 18070                | 24070                  | 30070                    | 36070                      |
| 3080             | 6080               | 9080                 | 12080                  | 15080                    | 18080                      |
| 4080             | 8080               | 12080                | 16080                  | 20080                    | 24080                      |
| 5080             | 10080              | 15080                | 20080                  | 25080                    | 30080                      |
| 6080             | 12080              | 18080                | 24080                  | 30080                    | 36080                      |
| 3090             | 6090               | 9090                 | 12090                  | 15090                    | 18090                      |
| 4090             | 8090               | 12090                | 16090                  | 20090                    | 24090                      |
| 5090             | 10090              | 15090                | 20090                  | 25090                    | 30090                      |
| 6090             | 12090              | 18090                | 24090                  | 30090                    | 36090                      |
| 30100            | 60100              | 90100                | 120100                 | 150100                   | 180100                     |
| 40100            | 80100              | 120100               | 160100                 | 200100                   | 240100                     |
| 50100            | 100100             | 150100               | 200100                 | 250100                   | 300100                     |
| 60100            | 120100             | 180100               | 240100                 | 300100                   | 360100                     |
| 30120            | 60120              | 90120                | 120120                 | 150120                   | 180120                     |
| 40120            | 80120              | 120120               | 160120                 | 200120                   | 240120                     |
| 50120            | 100120             | 150120               | 200120                 | 250120                   | 300120                     |
| 60120            | 120120             | 180120               | 240120                 | 300120                   | 360120                     |

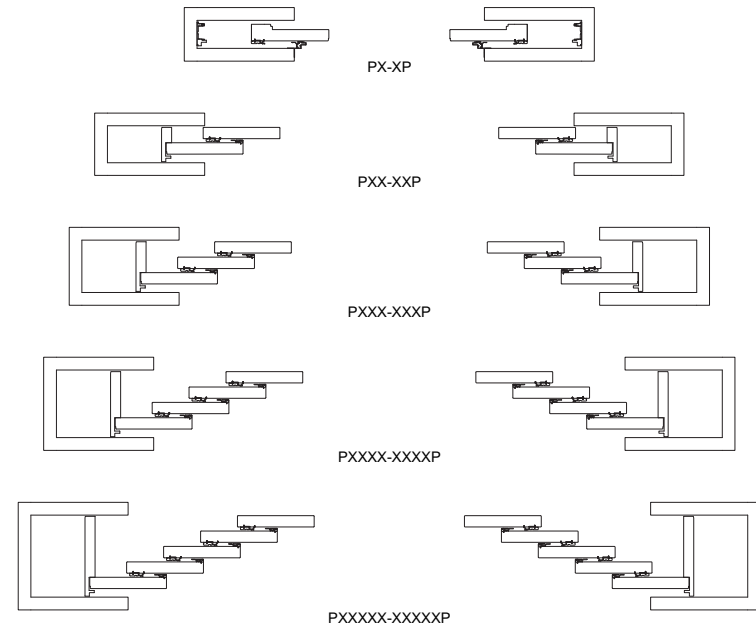


Details and Elevations not to scale.  
Please consult your local Marvin representative for more information.  
For further details and drawings visit the 'Tools and Documents'  
section at Marvin.com.

# MULTI-SLIDE DOOR

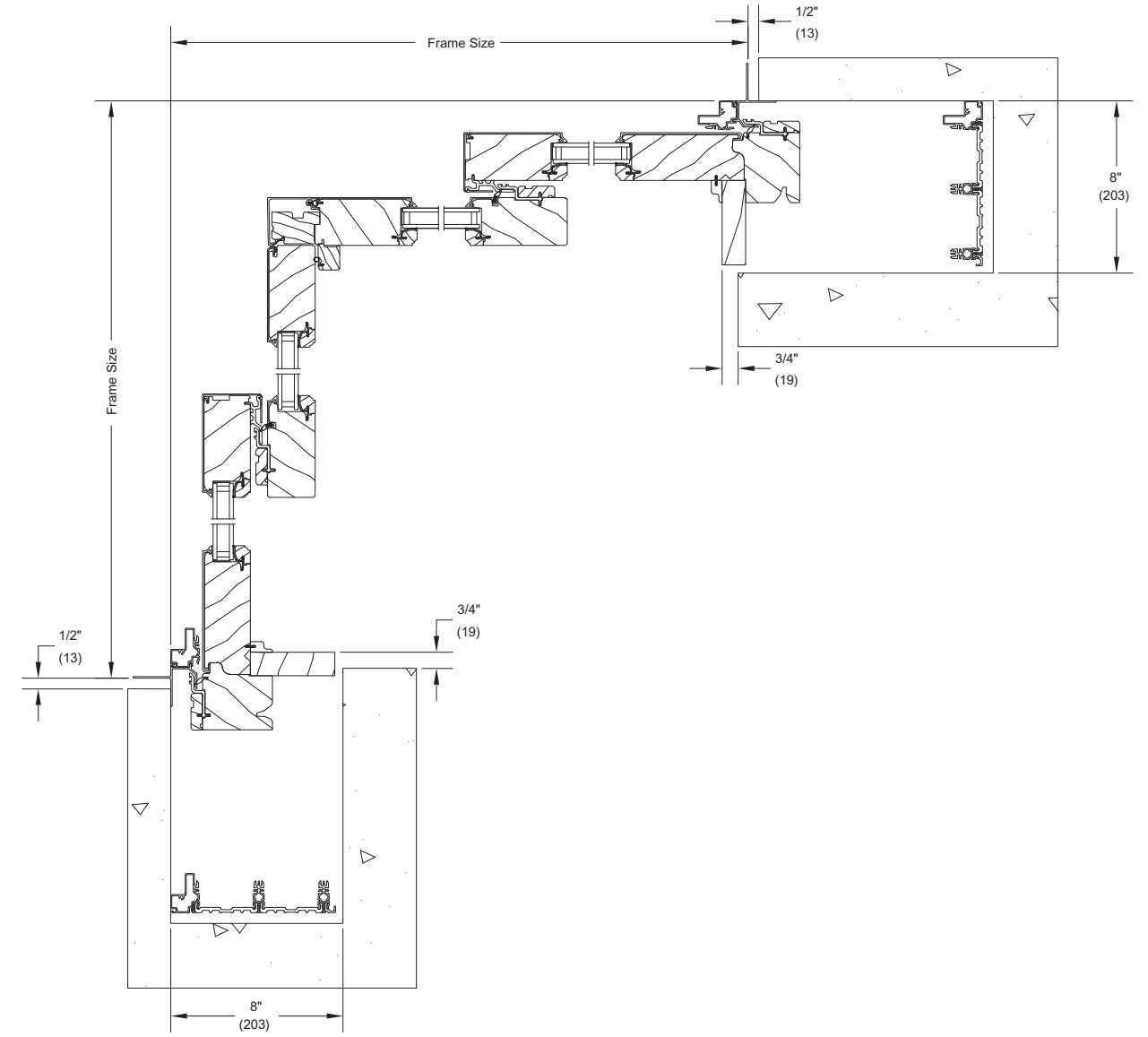
## STANDARD SIZES AND CONFIGURATIONS - BI PARTING POCKET

| 2-PANEL | 4-PANEL | 6-PANEL   | 8-PANEL     | 10-PANEL      |
|---------|---------|-----------|-------------|---------------|
| PX-XP   | PXX-XXP | PXXX-XXXP | PXXXX-XXXXP | PXXXXX-XXXXXP |
| 6070    | 12070   | 18070     | 24070       | 30070         |
| 8070    | 16070   | 24070     | 32070       | 40070         |
| 10070   | 20070   | 30070     | 40070       | 50070         |
| 12070   | 24070   | 36070     | 48070       | 60070         |
| 6080    | 12080   | 18080     | 24080       | 30080         |
| 8080    | 16080   | 24080     | 32080       | 40080         |
| 10080   | 20080   | 30080     | 40080       | 50080         |
| 12080   | 24080   | 36080     | 48080       | 60080         |
| 6090    | 12090   | 18090     | 24090       | 30090         |
| 8090    | 16090   | 24090     | 32090       | 40090         |
| 10090   | 20090   | 30090     | 40090       | 50090         |
| 12090   | 24090   | 36090     | 48090       | 60090         |
| 60100   | 120100  | 180100    | 240100      | 300100        |
| 80100   | 160100  | 240100    | 320100      | 400100        |
| 100100  | 200100  | 300100    | 400100      | 500100        |
| 120100  | 240100  | 360100    | 480100      | 600100        |
| 60120   | 120120  | 180120    | 240120      | 300120        |
| 80120   | 160120  | 240120    | 320120      | 400120        |
| 100120  | 200120  | 300120    | 400120      | 500120        |
| 120120  | 240120  | 360120    | 480120      | 600120        |



# MULTI-SLIDE DOOR POCKET CORNER

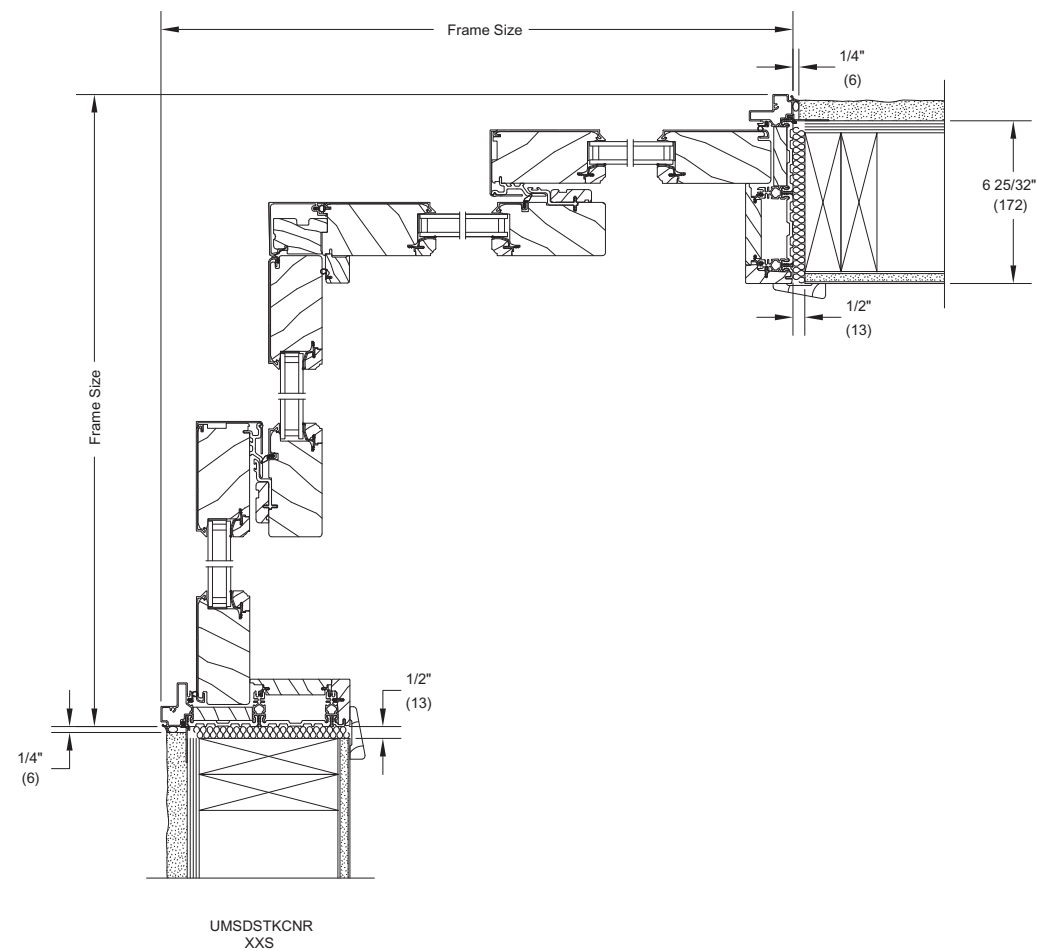
## CONSTRUCTION DETAILS



Details and Elevations not to scale.  
Please consult your local Marvin representative for more information.  
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

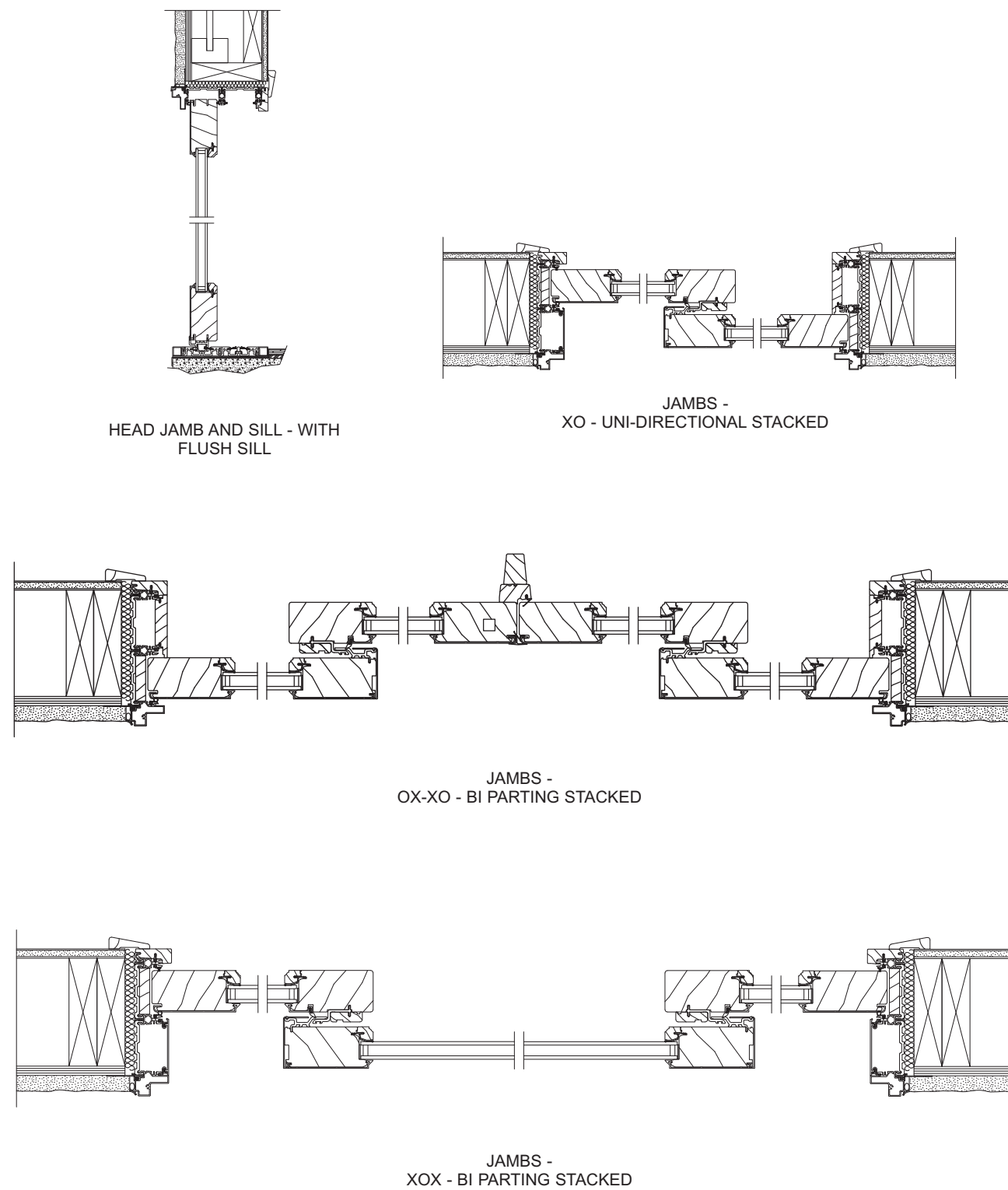
# MULTI-SLIDE DOOR STACKED CORNER

CONSTRUCTION DETAILS



# MULTI-SLIDE DOOR

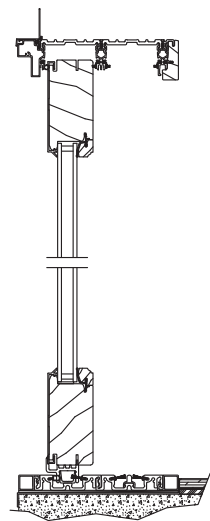
CONSTRUCTION DETAILS - UNI-DIRECTIONAL AND BI PARTING STACKED



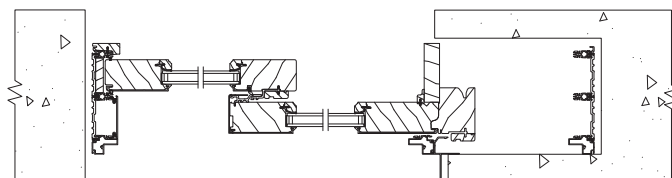
Details and Elevations not to scale.  
Please consult your local Marvin representative for more information.  
For further details and drawings visit the 'Tools and Documents'  
section at Marvin.com.

# MULTI-SLIDE DOOR

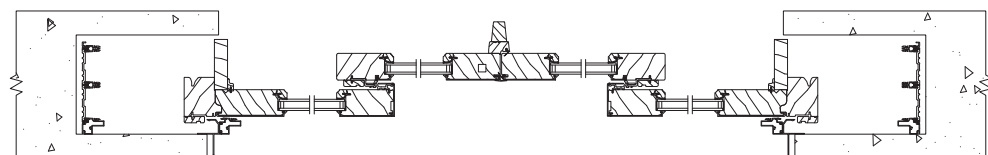
## CONSTRUCTION DETAILS - UNI-DIRECTIONAL AND BI PARTING POCKET



HEAD JAMB AND SILL - WITH FLUSH SILL



JAMBS - XO - UNI-DIRECTIONAL POCKETS



JAMBS - OX-XO - BI PARTING POCKET

# THERMAL PERFORMANCE

## WOOD DOUBLE HUNG

| GLASS DESCRIPTION          | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|----------------------------|------------|----------|------|------|----|--------------|--------------------|
| 11/16" IG Low E2 Arg       |            | 0.29     | 0.29 | 0.51 | 57 | NC           |                    |
|                            | SDLS < 1 " | 0.29     | 0.26 | 0.45 | 57 | NC           |                    |
| 11/16" IG Low E2 Air       |            | 0.32     | 0.30 | 0.51 | 53 |              |                    |
|                            | SDLS < 1 " | 0.32     | 0.27 | 0.45 | 53 |              |                    |
| 11/16" IG Low E3 Arg       |            | 0.28     | 0.20 | 0.45 | 57 | NC, SC, S    | 1                  |
|                            | SDLS < 1 " | 0.28     | 0.18 | 0.40 | 57 | NC, SC, S    |                    |
| 11/16" IG Low E1 Arg       |            | 0.29     | 0.48 | 0.56 | 56 | N            | 1, 2               |
|                            | SDLS < 1 " | 0.29     | 0.43 | 0.49 | 56 | N            | 1, 2               |
| 11/16" IG Low E2 Arg Comb  |            | 0.21     | 0.29 | 0.46 | 67 | N, NC        | 1, 2, 3            |
|                            | SDLN < 1 " | 0.24     | 0.27 | 0.44 | 64 | N, NC        | 1, 2               |
| 7/8" Tripane Low E2/E1 Arg |            | 0.24     | 0.27 | 0.44 | 64 | N, NC        | 1, 2               |
|                            | SDLN < 1 " | 0.24     | 0.24 | 0.39 | 64 | N, NC, SC, S | 1, 2               |

## WOOD DOUBLE HUNG MAGNUM

| GLASS DESCRIPTION          | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|----------------------------|------------|----------|------|------|----|--------------|--------------------|
| 11/16" IG Low E2 Arg       |            | 0.29     | 0.29 | 0.50 | 57 | NC           |                    |
|                            | SDLS < 1 " | 0.29     | 0.26 | 0.45 | 57 | NC           |                    |
| 11/16" IG Low E2 Air       |            | 0.32     | 0.30 | 0.50 | 53 |              |                    |
|                            | SDLS < 1 " | 0.32     | 0.26 | 0.45 | 53 |              |                    |
| 11/16" IG Low E3 Arg       |            | 0.28     | 0.19 | 0.45 | 57 | NC, SC, S    | 1                  |
|                            | SDLS < 1 " | 0.28     | 0.18 | 0.40 | 57 | NC, SC, S    |                    |
| 11/16" IG Low E1 Arg       |            | 0.30     | 0.48 | 0.55 | 56 | N            | 1, 2               |
|                            | SDLS < 1 " | 0.30     | 0.43 | 0.49 | 56 | N            | 1                  |
| 11/16" IG Low E2 Arg Comb  |            | 0.21     | 0.29 | 0.46 | 67 | N, NC        | 1, 2, 3            |
|                            | SDLN < 1 " | 0.25     | 0.27 | 0.44 | 64 | N, NC        | 1, 2               |
| 7/8" Tripane Low E2/E1 Arg |            | 0.25     | 0.27 | 0.44 | 64 | N, NC        | 1, 2               |
|                            | SDLN < 1 " | 0.25     | 0.24 | 0.39 | 64 | N, NC, SC, S | 1, 2               |

Details and Elevations not to scale. Please consult your local Marvin representative for more information. For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

Thermal performance information is provided for common glazing and product options and related National Fenestration Rating Council (NFRC) values, and is current as of 11/12/2019. Information regarding additional glazing and product options and configurations is available via the online tool at [marvin.com/support/energy-data](http://marvin.com/support/energy-data). Information regarding the NFRC rating system is available at [nfdc.org/WindowRatings](http://nfdc.org/WindowRatings).

### THERMAL PERFORMANCE

#### WOOD DOUBLE HUNG TRANSOM

| GLASS DESCRIPTION    | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|----------------------|------------|----------|------|------|----|--------------|--------------------|
| 11/16" IG Low E2 Arg |            | 0.27     | 0.31 | 0.54 | 60 | N, NC        | 1                  |
|                      | SDLS < 1 " | 0.27     | 0.28 | 0.48 | 60 | N, NC        | 1                  |
|                      | SDLN < 1 " | 0.27     | 0.28 | 0.48 | 60 | N, NC        | 1                  |
| 11/16" IG Low E2 Air |            | 0.31     | 0.32 | 0.54 | 56 |              |                    |
|                      | SDLS < 1 " | 0.31     | 0.28 | 0.48 | 56 |              |                    |
|                      | SDLN < 1 " | 0.31     | 0.28 | 0.48 | 56 |              |                    |
| 11/16" IG Low E3 Arg |            | 0.26     | 0.21 | 0.49 | 60 | N, NC, SC, S | 1                  |
|                      | SDLS < 1 " | 0.26     | 0.19 | 0.43 | 60 | N, NC, SC, S | 1                  |
|                      | SDLN < 1 " | 0.26     | 0.19 | 0.43 | 60 | N, NC, SC, S | 1                  |
| 11/16" IG Low E1 Arg |            | 0.28     | 0.52 | 0.59 | 59 | N            | 1, 2, 3            |
|                      | SDLS < 1 " | 0.28     | 0.46 | 0.53 | 59 | N            | 1, 2               |
|                      | SDLN < 1 " | 0.28     | 0.46 | 0.53 | 59 | N            | 1, 2               |

#### WOOD DOUBLE HUNG PICTURE

| GLASS DESCRIPTION    | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|----------------------|------------|----------|------|------|----|--------------|--------------------|
| 11/16" IG Low E2 Arg |            | 0.27     | 0.31 | 0.53 | 61 | N, NC        | 1                  |
|                      | SDLS < 1 " | 0.27     | 0.28 | 0.47 | 61 | N, NC        | 1                  |
|                      | SDLN < 1 " | 0.27     | 0.28 | 0.47 | 61 | N, NC        | 1                  |
| 11/16" IG Low E2 Air |            | 0.31     | 0.31 | 0.53 | 57 |              |                    |
|                      | SDLS < 1 " | 0.31     | 0.28 | 0.47 | 57 |              |                    |
|                      | SDLN < 1 " | 0.31     | 0.28 | 0.47 | 57 |              |                    |
| 11/16" IG Low E3 Arg |            | 0.27     | 0.20 | 0.48 | 61 | N, NC, SC, S | 1                  |
|                      | SDLS < 1 " | 0.27     | 0.18 | 0.42 | 61 | N, NC, SC, S | 1                  |
|                      | SDLN < 1 " | 0.27     | 0.18 | 0.42 | 61 | N, NC, SC, S | 1                  |
| 11/16" IG Low E1 Arg |            | 0.28     | 0.51 | 0.58 | 60 | N            | 1, 2, 3            |
|                      | SDLS < 1 " | 0.28     | 0.45 | 0.52 | 60 | N            | 1, 2               |
|                      | SDLN < 1 " | 0.28     | 0.45 | 0.52 | 60 | N            | 1, 2               |

### THERMAL PERFORMANCE

#### WOOD DOUBLE HUNG PICTURE 2 INCH

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 1" IG Low E2 Arg         |            | 0.27     | 0.30 | 0.52 | 61 | N, NC        | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.27 | 0.46 | 61 | N, NC        | 1                  |
|                          | SDLN < 1 " | 0.27     | 0.27 | 0.46 | 61 | N, NC        | 1                  |
| 1" IG Low E2 Air         |            | 0.31     | 0.30 | 0.52 | 58 |              |                    |
|                          | SDLS < 1 " | 0.31     | 0.27 | 0.46 | 58 |              |                    |
|                          | SDLN < 1 " | 0.31     | 0.27 | 0.46 | 58 |              |                    |
| 1" IG Low E3 Arg         |            | 0.27     | 0.20 | 0.47 | 62 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.18 | 0.42 | 62 | N, NC, SC, S | 1                  |
|                          | SDLN < 1 " | 0.27     | 0.18 | 0.42 | 62 | N, NC, SC, S | 1                  |
| 1" IG Low E1 Arg         |            | 0.28     | 0.49 | 0.57 | 61 | N            | 1, 2               |
|                          | SDLS < 1 " | 0.28     | 0.44 | 0.51 | 61 | N            | 1, 2               |
|                          | SDLN < 1 " | 0.28     | 0.44 | 0.51 | 61 | N            | 1, 2               |
| 1" Tripane Low E2/E1 Arg |            | 0.20     | 0.28 | 0.47 | 72 | N, NC        | 1, 2, 3            |
|                          | SDLN < 1 " | 0.20     | 0.25 | 0.41 | 72 | N, NC, SC, S | 1, 2, 3            |

#### WOOD DOUBLE HUNG ROUND TOP OPERATOR

| GLASS DESCRIPTION    | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|----------------------|------------|----------|------|------|----|-------------|--------------------|
| 11/16" IG Low E2 Arg |            | 0.29     | 0.29 | 0.50 | 56 | NC          |                    |
|                      | SDLS < 1 " | 0.29     | 0.26 | 0.44 | 56 | NC          |                    |
|                      | SDLN < 1 " | 0.29     | 0.26 | 0.44 | 56 | NC          |                    |
| 11/16" IG Low E2 Air |            | 0.32     | 0.29 | 0.50 | 53 |             |                    |
|                      | SDLS < 1 " | 0.32     | 0.26 | 0.44 | 53 |             |                    |
|                      | SDLN < 1 " | 0.32     | 0.26 | 0.44 | 53 |             |                    |
| 11/16" IG Low E3 Arg |            | 0.28     | 0.19 | 0.45 | 56 | NC, SC, S   | 1                  |
|                      | SDLS < 1 " | 0.28     | 0.18 | 0.40 | 56 | NC, SC, S   |                    |
|                      | SDLN < 1 " | 0.28     | 0.18 | 0.40 | 56 | NC, SC, S   |                    |
| 11/16" IG Low E1 Arg |            | 0.30     | 0.48 | 0.55 | 56 | N           | 1, 2               |
|                      | SDLS < 1 " | 0.30     | 0.43 | 0.49 | 56 | N           | 1                  |
|                      | SDLN < 1 " | 0.30     | 0.43 | 0.49 | 56 | N           | 1                  |

Thermal performance information is provided for common glazing and product options and related National Fenestration Rating Council (NFRC) values, and is current as of 11/12/2019. Information regarding additional glazing and product options and configurations is available via the online tool at [marvin.com/support/energy-data](http://marvin.com/support/energy-data). Information regarding the NFRC rating system is available at [nfr.org/WindowRatings](http://nfr.org/WindowRatings).

**THERMAL PERFORMANCE**

**WOOD DOUBLE HUNG TRANSOM ROUND TOP**

| GLASS DESCRIPTION    | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|----------------------|------------|----------|------|------|----|--------------|--------------------|
| 11/16" IG Low E2 Arg |            | 0.27     | 0.31 | 0.54 | 59 | N, NC        | 1                  |
|                      | SDLS < 1 " | 0.27     | 0.28 | 0.48 | 59 | N, NC        | 1                  |
|                      | SDLN < 1 " | 0.27     | 0.28 | 0.48 | 59 | N, NC        | 1                  |
| 11/16" IG Low E2 Air |            | 0.31     | 0.32 | 0.54 | 55 |              |                    |
|                      | SDLS < 1 " | 0.31     | 0.28 | 0.48 | 55 |              |                    |
|                      | SDLN < 1 " | 0.31     | 0.28 | 0.48 | 55 |              |                    |
| 11/16" IG Low E3 Arg |            | 0.27     | 0.21 | 0.49 | 59 | N, NC, SC, S | 1                  |
|                      | SDLS < 1 " | 0.27     | 0.19 | 0.43 | 59 | N, NC, SC, S | 1                  |
|                      | SDLN < 1 " | 0.27     | 0.19 | 0.43 | 59 | N, NC, SC, S | 1                  |
| 11/16" IG Low E1 Arg |            | 0.28     | 0.52 | 0.59 | 58 | N            | 1, 2, 3            |
|                      | SDLS < 1 " | 0.28     | 0.46 | 0.53 | 58 | N            | 1, 2               |
|                      | SDLN < 1 " | 0.28     | 0.46 | 0.53 | 58 | N            | 1, 2               |

**WOOD DOUBLE HUNG TRANSOM ROUND TOP 1INCH IG**

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 1" IG Low E2 Arg         |            | 0.27     | 0.31 | 0.53 | 60 | N, NC        | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.28 | 0.47 | 60 | N, NC        | 1                  |
|                          | SDLN < 1 " | 0.27     | 0.28 | 0.47 | 60 | N, NC        | 1                  |
| 1" IG Low E2 Air         |            | 0.31     | 0.31 | 0.53 | 56 |              |                    |
|                          | SDLS < 1 " | 0.31     | 0.28 | 0.47 | 56 |              |                    |
|                          | SDLN < 1 " | 0.31     | 0.28 | 0.47 | 56 |              |                    |
| 1" IG Low E3 Arg         |            | 0.27     | 0.21 | 0.48 | 60 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.19 | 0.42 | 60 | N, NC, SC, S | 1                  |
|                          | SDLN < 1 " | 0.27     | 0.19 | 0.42 | 60 | N, NC, SC, S | 1                  |
| 1" IG Low E1 Arg         |            | 0.28     | 0.50 | 0.58 | 59 | N            | 1, 2, 3            |
|                          | SDLS < 1 " | 0.28     | 0.45 | 0.52 | 59 | N            | 1, 2               |
|                          | SDLN < 1 " | 0.28     | 0.45 | 0.52 | 59 | N            | 1, 2               |
| 1" Tripane Low E2/E1 Arg |            | 0.20     | 0.28 | 0.47 | 71 | N, NC        | 1, 2, 3            |
|                          | SDLN < 1 " | 0.20     | 0.26 | 0.42 | 71 | N, NC        | 1, 2, 3            |

**THERMAL PERFORMANCE**

**WOOD DIRECT GLAZE RECTANGLE**

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 11/16" IG Low E2 Arg     |            | 0.26     | 0.35 | 0.61 | 60 | N, NC        | 1                  |
|                          | SDLS < 1 " | 0.26     | 0.32 | 0.54 | 60 | N, NC        | 1                  |
|                          | SDLN < 1 " | 0.26     | 0.32 | 0.54 | 60 | N, NC        | 1                  |
| 11/16" IG Low E2 Air     |            | 0.30     | 0.35 | 0.61 | 56 | NC           |                    |
|                          | SDLS < 1 " | 0.30     | 0.32 | 0.54 | 56 | NC           |                    |
|                          | SDLN < 1 " | 0.30     | 0.32 | 0.54 | 56 | NC           |                    |
| 11/16" IG Low E3 Arg     |            | 0.25     | 0.23 | 0.54 | 61 | N, NC, SC, S | 1, 2               |
|                          | SDLS < 1 " | 0.25     | 0.21 | 0.49 | 61 | N, NC, SC, S | 1, 2               |
|                          | SDLN < 1 " | 0.25     | 0.21 | 0.49 | 61 | N, NC, SC, S | 1, 2               |
| 11/16" IG Low E1 Arg     |            | 0.26     | 0.58 | 0.67 | 60 | N            | 1, 2, 3            |
|                          | SDLS < 1 " | 0.26     | 0.52 | 0.60 | 60 | N            | 1, 2, 3            |
|                          | SDLN < 1 " | 0.26     | 0.52 | 0.60 | 60 | N            | 1, 2, 3            |
| 13/16" IG Low E2 Arg     |            | 0.26     | 0.34 | 0.59 | 60 | N, NC        | 1                  |
|                          | SDLS < 1 " | 0.26     | 0.31 | 0.53 | 60 | N, NC        | 1                  |
|                          | SDLN < 1 " | 0.26     | 0.31 | 0.53 | 60 | N, NC        | 1                  |
| 13/16" IG Low E2 Air     |            | 0.30     | 0.35 | 0.59 | 56 | NC           |                    |
|                          | SDLS < 1 " | 0.30     | 0.31 | 0.53 | 56 | NC           |                    |
|                          | SDLN < 1 " | 0.30     | 0.31 | 0.53 | 56 | NC           |                    |
| 13/16" IG Low E3 Arg     |            | 0.25     | 0.23 | 0.54 | 61 | N, NC, SC, S | 1, 2               |
|                          | SDLS < 1 " | 0.25     | 0.21 | 0.48 | 61 | N, NC, SC, S | 1, 2               |
|                          | SDLN < 1 " | 0.25     | 0.21 | 0.48 | 61 | N, NC, SC, S | 1, 2               |
| 13/16" IG Low E1 Arg     |            | 0.26     | 0.55 | 0.65 | 60 | N            | 1, 2, 3            |
|                          | SDLS < 1 " | 0.26     | 0.50 | 0.59 | 60 | N            | 1, 2, 3            |
|                          | SDLN < 1 " | 0.26     | 0.50 | 0.59 | 60 | N            | 1, 2, 3            |
| 1" Tripane Low E2/E1 Arg |            | 0.19     | 0.32 | 0.53 | 70 | N, NC        | 1, 2, 3            |
|                          | SDLN < 1 " | 0.19     | 0.29 | 0.48 | 70 | N, NC        | 1, 2, 3            |

**WOOD DOUBLE HUNG PICTURE ROUND TOP**

| GLASS DESCRIPTION    | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|----------------------|------------|----------|------|------|----|--------------|--------------------|
| 11/16" IG Low E2 Arg |            | 0.28     | 0.31 | 0.53 | 59 | NC           | 1                  |
|                      | SDLS < 1 " | 0.28     | 0.28 | 0.47 | 59 | NC           | 1                  |
|                      | SDLN < 1 " | 0.28     | 0.28 | 0.47 | 59 | NC           | 1                  |
| 11/16" IG Low E2 Air |            | 0.31     | 0.31 | 0.53 | 55 |              |                    |
|                      | SDLS < 1 " | 0.31     | 0.28 | 0.47 | 55 |              |                    |
|                      | SDLN < 1 " | 0.31     | 0.28 | 0.47 | 55 |              |                    |
| 11/16" IG Low E3 Arg |            | 0.27     | 0.20 | 0.47 | 59 | N, NC, SC, S | 1                  |
|                      | SDLS < 1 " | 0.27     | 0.18 | 0.42 | 59 | N, NC, SC, S | 1                  |
|                      | SDLN < 1 " | 0.27     | 0.18 | 0.42 | 59 | N, NC, SC, S | 1                  |
| 11/16" IG Low E1 Arg |            | 0.28     | 0.50 | 0.58 | 59 | N            | 1, 2, 3            |
|                      | SDLS < 1 " | 0.28     | 0.45 | 0.51 | 59 | N            | 1, 2               |
|                      | SDLN < 1 " | 0.28     | 0.45 | 0.51 | 59 | N            | 1, 2               |

Thermal performance information is provided for common glazing and product options and related National Fenestration Rating Council (NFRC) values, and is current as of 11/12/2019. Information regarding additional glazing and product options and configurations is available via the online tool at [marvin.com/support/energy-data](http://marvin.com/support/energy-data). Information regarding the NFRC rating system is available at [nfr.org/WindowRatings](http://nfr.org/WindowRatings).

### THERMAL PERFORMANCE

#### WOOD DOUBLE HUNG PICTURE ROUND TOP 1 INCH IG

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 1" IG Low E2 Arg         |            | 0.27     | 0.30 | 0.52 | 60 | N, NC        | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.27 | 0.46 | 60 | N, NC        | 1                  |
|                          | SDLN < 1 " | 0.27     | 0.27 | 0.46 | 60 | N, NC        | 1                  |
| 1" IG Low E2 Air         |            | 0.31     | 0.30 | 0.52 | 57 |              |                    |
|                          | SDLS < 1 " | 0.31     | 0.27 | 0.46 | 57 |              |                    |
|                          | SDLN < 1 " | 0.31     | 0.27 | 0.46 | 57 |              |                    |
| 1" IG Low E3 Arg         |            | 0.27     | 0.20 | 0.47 | 60 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.18 | 0.41 | 60 | N, NC, SC, S | 1                  |
|                          | SDLN < 1 " | 0.27     | 0.18 | 0.41 | 60 | N, NC, SC, S | 1                  |
| 1" IG Low E1 Arg         |            | 0.28     | 0.49 | 0.57 | 60 | N            | 1, 2               |
|                          | SDLS < 1 " | 0.28     | 0.43 | 0.51 | 60 | N            | 1, 2               |
|                          | SDLN < 1 " | 0.28     | 0.43 | 0.51 | 60 | N            | 1, 2               |
| 1" Tripane Low E2/E1 Arg |            | 0.20     | 0.28 | 0.46 | 71 | N, NC        | 1, 2, 3            |
|                          | SDLN < 1 " | 0.20     | 0.25 | 0.41 | 71 | N, NC, SC, S | 1, 2, 3            |

#### DOUBLE HUNG G2

| GLASS DESCRIPTION          | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|----------------------------|------------|----------|------|------|----|--------------|--------------------|
| 7/8" IG Low E2 Arg         |            | 0.30     | 0.30 | 0.52 | 56 | NC           |                    |
|                            | SDLS < 1 " | 0.30     | 0.27 | 0.46 | 56 | NC           |                    |
|                            | SDLN < 1 " | 0.30     | 0.27 | 0.46 | 56 | NC           |                    |
| 7/8" IG Low E2 Air         |            | 0.33     | 0.30 | 0.52 | 55 |              |                    |
|                            | SDLS < 1 " | 0.33     | 0.27 | 0.46 | 55 |              |                    |
|                            | SDLN < 1 " | 0.33     | 0.27 | 0.46 | 55 |              |                    |
| 7/8" IG Low E3 Arg         |            | 0.29     | 0.20 | 0.46 | 56 | NC, SC, S    |                    |
|                            | SDLS < 1 " | 0.29     | 0.18 | 0.41 | 56 | NC, SC, S    |                    |
|                            | SDLN < 1 " | 0.29     | 0.18 | 0.41 | 56 | NC, SC, S    |                    |
| 7/8" IG Low E1 Arg         |            | 0.30     | 0.50 | 0.57 | 55 | N            | 1, 2               |
|                            | SDLS < 1 " | 0.30     | 0.44 | 0.50 | 55 | N            | 1                  |
|                            | SDLN < 1 " | 0.30     | 0.44 | 0.50 | 55 | N            | 1                  |
| 7/8" Tripane Low E2/E1 Arg |            | 0.25     | 0.27 | 0.45 | 65 | N, NC        | 1, 2               |
|                            | SDLN < 1 " | 0.25     | 0.25 | 0.40 | 65 | N, NC, SC, S | 1, 2               |
| 7/8" Tripane Low E2/E1 Air |            | 0.29     | 0.28 | 0.45 | 62 | NC           |                    |
|                            | SDLN < 1 " | 0.29     | 0.25 | 0.40 | 62 | NC, SC, S    |                    |
| 7/8" IG Low E2 Arg Comb    |            | 0.23     | 0.29 | 0.47 | 66 | N, NC        | 1, 2               |
|                            | SDLS < 1 " | 0.23     | 0.26 | 0.41 | 66 | N, NC        | 1, 2               |
|                            | SDLN < 1 " | 0.23     | 0.26 | 0.41 | 66 | N, NC        | 1, 2               |

### THERMAL PERFORMANCE

#### DOUBLE HUNG TRANSOM G2

| GLASS DESCRIPTION          | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|----------------------------|------------|----------|------|------|----|-------------|--------------------|
| 7/8" IG Low E2 Arg         |            | 0.29     | 0.32 | 0.55 | 61 | NC          |                    |
|                            | SDLS < 1 " | 0.29     | 0.29 | 0.49 | 61 | NC          |                    |
|                            | SDLN < 1 " | 0.29     | 0.29 | 0.49 | 61 | NC          |                    |
| 7/8" IG Low E2 Air         |            | 0.32     | 0.32 | 0.55 | 57 |             |                    |
|                            | SDLS < 1 " | 0.32     | 0.29 | 0.49 | 57 |             |                    |
|                            | SDLN < 1 " | 0.32     | 0.29 | 0.49 | 57 |             |                    |
| 7/8" IG Low E3 Arg         |            | 0.28     | 0.21 | 0.49 | 61 | NC, SC, S   | 1                  |
|                            | SDLS < 1 " | 0.28     | 0.19 | 0.44 | 61 | NC, SC, S   |                    |
|                            | SDLN < 1 " | 0.28     | 0.19 | 0.44 | 61 | NC, SC, S   |                    |
| 7/8" IG Low E1 Arg         |            | 0.29     | 0.53 | 0.60 | 61 | N           | 1, 2               |
|                            | SDLS < 1 " | 0.29     | 0.47 | 0.54 | 61 | N           | 1, 2               |
|                            | SDLN < 1 " | 0.29     | 0.47 | 0.54 | 61 | N           | 1, 2               |
| 7/8" Tripane Low E2/E1 Arg |            | 0.24     | 0.29 | 0.48 | 68 | N, NC       | 1, 2               |
|                            | SDLN < 1 " | 0.24     | 0.26 | 0.43 | 68 | N, NC       | 1, 2               |

#### DOUBLE HUNG PICTURE G2

| GLASS DESCRIPTION          | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|----------------------------|------------|----------|------|------|----|--------------|--------------------|
| 7/8" IG Low E2 Arg         |            | 0.29     | 0.31 | 0.54 | 61 | NC           |                    |
|                            | SDLS < 1 " | 0.29     | 0.28 | 0.48 | 61 | NC           |                    |
|                            | SDLN < 1 " | 0.29     | 0.28 | 0.48 | 61 | NC           |                    |
| 7/8" IG Low E2 Air         |            | 0.33     | 0.31 | 0.54 | 58 |              |                    |
|                            | SDLS < 1 " | 0.33     | 0.28 | 0.48 | 58 |              |                    |
|                            | SDLN < 1 " | 0.33     | 0.28 | 0.48 | 58 |              |                    |
| 7/8" IG Low E3 Arg         |            | 0.29     | 0.21 | 0.48 | 62 | NC, SC, S    |                    |
|                            | SDLS < 1 " | 0.29     | 0.19 | 0.43 | 62 | NC, SC, S    |                    |
|                            | SDLN < 1 " | 0.29     | 0.19 | 0.43 | 62 | NC, SC, S    |                    |
| 7/8" IG Low E1 Arg         |            | 0.30     | 0.51 | 0.59 | 61 | N            | 1, 2               |
|                            | SDLS < 1 " | 0.30     | 0.46 | 0.52 | 61 | N            | 1, 2               |
|                            | SDLN < 1 " | 0.30     | 0.46 | 0.52 | 61 | N            | 1, 2               |
| 7/8" Tripane Low E2/E1 Arg |            | 0.24     | 0.28 | 0.47 | 65 | N, NC        | 1, 2               |
|                            | SDLN < 1 " | 0.24     | 0.25 | 0.42 | 65 | N, NC, SC, S | 1, 2               |

Thermal performance information is provided for common glazing and product options and related National Fenestration Rating Council (NFRC) values, and is current as of 11/12/2019. Information regarding additional glazing and product options and configurations is available via the online tool at [marvin.com/support/energy-data](http://marvin.com/support/energy-data). Information regarding the NFRC rating system is available at [nfr.org/WindowRatings](http://nfr.org/WindowRatings).

### THERMAL PERFORMANCE

#### DOUBLE HUNG ROUND TOP G2

| GLASS DESCRIPTION          | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|----------------------------|------------|----------|------|------|----|--------------|--------------------|
| 7/8" IG Low E2 Arg         |            | 0.30     | 0.30 | 0.51 | 55 | NC           |                    |
|                            | SDLS < 1 " | 0.30     | 0.27 | 0.46 | 55 | NC           |                    |
|                            | SDLN < 1 " | 0.30     | 0.27 | 0.46 | 55 | NC           |                    |
| 7/8" IG Low E2 Air         |            | 0.33     | 0.30 | 0.51 | 54 |              |                    |
|                            | SDLS < 1 " | 0.33     | 0.27 | 0.46 | 54 |              |                    |
|                            | SDLN < 1 " | 0.33     | 0.27 | 0.46 | 54 |              |                    |
| 7/8" IG Low E3 Arg         |            | 0.29     | 0.20 | 0.46 | 56 | NC, SC, S    |                    |
|                            | SDLS < 1 " | 0.29     | 0.18 | 0.41 | 56 | NC, SC, S    |                    |
|                            | SDLN < 1 " | 0.29     | 0.18 | 0.41 | 56 | NC, SC, S    |                    |
| 7/8" IG Low E1 Arg         |            | 0.31     | 0.50 | 0.57 | 55 |              | 1, 2               |
|                            | SDLS < 1 " | 0.31     | 0.44 | 0.50 | 55 |              | 1                  |
|                            | SDLN < 1 " | 0.31     | 0.44 | 0.50 | 55 |              | 1                  |
| 7/8" Tripane Low E2/E1 Arg |            | 0.26     | 0.27 | 0.45 | 63 | N, NC        | 1                  |
|                            | SDLN < 1 " | 0.26     | 0.25 | 0.40 | 63 | N, NC, SC, S | 1                  |

#### DOUBLE HUNG INSERT G2

| GLASS DESCRIPTION          | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|----------------------------|------------|----------|------|------|----|--------------|--------------------|
| 7/8" IG Low E2 Arg         |            | 0.31     | 0.30 | 0.52 | 55 |              |                    |
|                            | SDLS < 1 " | 0.31     | 0.27 | 0.46 | 55 |              |                    |
|                            | SDLN < 1 " | 0.31     | 0.27 | 0.46 | 55 |              |                    |
| 7/8" IG Low E2 Air         |            | 0.34     | 0.30 | 0.52 | 55 |              |                    |
|                            | SDLS < 1 " | 0.34     | 0.27 | 0.46 | 55 |              |                    |
|                            | SDLN < 1 " | 0.34     | 0.27 | 0.46 | 55 |              |                    |
| 7/8" IG Low E3 Arg         |            | 0.30     | 0.20 | 0.47 | 56 | NC, SC, S    |                    |
|                            | SDLS < 1 " | 0.30     | 0.18 | 0.41 | 56 | NC, SC, S    |                    |
|                            | SDLN < 1 " | 0.30     | 0.18 | 0.41 | 56 | NC, SC, S    |                    |
| 7/8" IG Low E1 Arg         |            | 0.31     | 0.50 | 0.57 | 55 |              | 1, 2               |
|                            | SDLS < 1 " | 0.31     | 0.45 | 0.51 | 55 |              | 1                  |
|                            | SDLN < 1 " | 0.31     | 0.45 | 0.51 | 55 |              | 1                  |
| 7/8" Tripane Low E2/E1 Arg |            | 0.26     | 0.27 | 0.46 | 65 | N, NC        | 1                  |
|                            | SDLN < 1 " | 0.26     | 0.25 | 0.40 | 65 | N, NC, SC, S | 1                  |
| 7/8" Tripane Low E2/E1 Air |            | 0.30     | 0.28 | 0.46 | 61 | NC           |                    |
|                            | SDLN < 1 " | 0.30     | 0.25 | 0.40 | 61 | NC, SC, S    |                    |

### THERMAL PERFORMANCE

#### DOUBLE HUNG INSERT TRANSOM G2

| GLASS DESCRIPTION          | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|----------------------------|------------|----------|------|------|----|-------------|--------------------|
| 7/8" IG Low E2 Arg         |            | 0.30     | 0.32 | 0.55 | 60 | NC          |                    |
|                            | SDLS < 1 " | 0.30     | 0.29 | 0.49 | 60 | NC          |                    |
|                            | SDLN < 1 " | 0.30     | 0.29 | 0.49 | 60 | NC          |                    |
| 7/8" IG Low E2 Air         |            | 0.33     | 0.32 | 0.55 | 57 |             |                    |
|                            | SDLS < 1 " | 0.33     | 0.29 | 0.49 | 57 |             |                    |
|                            | SDLN < 1 " | 0.33     | 0.29 | 0.49 | 57 |             |                    |
| 7/8" IG Low E3 Arg         |            | 0.29     | 0.21 | 0.49 | 61 | NC, SC, S   |                    |
|                            | SDLS < 1 " | 0.29     | 0.19 | 0.44 | 61 | NC, SC, S   |                    |
|                            | SDLN < 1 " | 0.29     | 0.19 | 0.44 | 61 | NC, SC, S   |                    |
| 7/8" IG Low E1 Arg         |            | 0.31     | 0.53 | 0.61 | 60 |             | 1, 2               |
|                            | SDLS < 1 " | 0.31     | 0.48 | 0.54 | 60 |             | 1, 2               |
|                            | SDLN < 1 " | 0.31     | 0.48 | 0.54 | 60 |             | 1, 2               |
| 7/8" Tripane Low E2/E1 Arg |            | 0.25     | 0.29 | 0.48 | 67 | N, NC       | 1, 2               |
|                            | SDLN < 1 " | 0.25     | 0.26 | 0.43 | 67 | N, NC       | 1, 2               |

#### DOUBLE HUNG INSERT PICTURE G2

| GLASS DESCRIPTION          | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|----------------------------|------------|----------|------|------|----|-------------|--------------------|
| 7/8" IG Low E2 Arg         |            | 0.29     | 0.31 | 0.54 | 61 | NC          |                    |
|                            | SDLS < 1 " | 0.29     | 0.28 | 0.48 | 61 | NC          |                    |
|                            | SDLN < 1 " | 0.29     | 0.28 | 0.48 | 61 | NC          |                    |
| 7/8" IG Low E2 Air         |            | 0.33     | 0.31 | 0.54 | 58 |             |                    |
|                            | SDLS < 1 " | 0.33     | 0.28 | 0.48 | 58 |             |                    |
|                            | SDLN < 1 " | 0.33     | 0.28 | 0.48 | 58 |             |                    |
| 7/8" IG Low E3 Arg         |            | 0.29     | 0.21 | 0.48 | 62 | NC, SC, S   |                    |
|                            | SDLS < 1 " | 0.29     | 0.19 | 0.43 | 62 | NC, SC, S   |                    |
|                            | SDLN < 1 " | 0.29     | 0.19 | 0.43 | 62 | NC, SC, S   |                    |
| 7/8" IG Low E1 Arg         |            | 0.30     | 0.52 | 0.59 | 61 | N           | 1, 2               |
|                            | SDLS < 1 " | 0.30     | 0.46 | 0.53 | 61 | N           | 1, 2               |
|                            | SDLN < 1 " | 0.30     | 0.46 | 0.53 | 61 | N           | 1, 2               |
| 7/8" Tripane Low E2/E1 Arg |            | 0.24     | 0.28 | 0.47 | 65 | N, NC       | 1, 2               |
|                            | SDLN < 1 " | 0.24     | 0.26 | 0.42 | 65 | N, NC       | 1, 2               |

Thermal performance information is provided for common glazing and product options and related National Fenestration Rating Council (NFRC) values, and is current as of 11/12/2019. Information regarding additional glazing and product options and configurations is available via the online tool at [marvin.com/support/energy-data](http://marvin.com/support/energy-data). Information regarding the NFRC rating system is available at [nfr.org/WindowRatings](http://nfr.org/WindowRatings).

### THERMAL PERFORMANCE

#### WOOD DOUBLE HUNG TILT PAC

| GLASS DESCRIPTION   | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|---------------------|------------|----------|------|------|----|-------------|--------------------|
| 9/16" IG Low E2 Arg | SDLS < 1 " | 0.33     | 0.27 | 0.45 | 54 |             |                    |
|                     | SDLN < 1 " | 0.32     | 0.27 | 0.45 | 54 |             |                    |
| 9/16" IG Low E2 Air | SDLS < 1 " | 0.37     | 0.27 | 0.45 | 50 |             |                    |
|                     | SDLN < 1 " | 0.37     | 0.27 | 0.45 | 50 |             |                    |
| 9/16" IG Low E3 Arg | SDLS < 1 " | 0.32     | 0.18 | 0.41 | 55 |             |                    |
|                     | SDLN < 1 " | 0.32     | 0.18 | 0.41 | 55 |             |                    |

#### DOUBLE HUNG TILT PAC

| GLASS DESCRIPTION    | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|----------------------|------------|----------|------|------|----|-------------|--------------------|
| 9/16" IG Low E2 Arg  | SDLS < 1 " | 0.34     | 0.27 | 0.45 | 52 |             |                    |
|                      | SDLN < 1 " | 0.34     | 0.27 | 0.45 | 52 |             |                    |
| 9/16" IG Low E2 Air  | SDLS < 1 " | 0.39     | 0.27 | 0.45 | 48 |             |                    |
|                      | SDLN < 1 " | 0.38     | 0.27 | 0.45 | 48 |             |                    |
| 9/16" IG Low E3 Arg  | SDLS < 1 " | 0.34     | 0.18 | 0.41 | 52 |             |                    |
|                      | SDLN < 1 " | 0.33     | 0.18 | 0.41 | 52 |             |                    |
| 11/16" IG Low E2 Arg |            | 0.31     | 0.30 | 0.51 | 53 |             |                    |
| 11/16" IG Low E2 Air |            | 0.35     | 0.30 | 0.51 | 50 |             |                    |
| 11/16" IG Low E3 Arg |            | 0.31     | 0.20 | 0.46 | 54 |             |                    |

#### WOOD CASEMENT PUSH OUT

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg       |            | 0.29     | 0.28 | 0.48 | 60 | NC           |                    |
|                          | SDLS < 1 " | 0.29     | 0.26 | 0.43 | 60 | NC           |                    |
| 3/4" IG Low E2 Air       |            | 0.32     | 0.28 | 0.48 | 57 |              |                    |
|                          | SDLS < 1 " | 0.32     | 0.26 | 0.43 | 57 |              |                    |
| 3/4" IG Low E3 Arg       |            | 0.28     | 0.19 | 0.43 | 61 | NC, SC, S    | 1                  |
|                          | SDLS < 1 " | 0.28     | 0.17 | 0.39 | 61 | NC, SC, S    |                    |
| 3/4" IG Low E1 Arg       |            | 0.29     | 0.46 | 0.53 | 60 | N            | 1, 2               |
|                          | SDLS < 1 " | 0.29     | 0.42 | 0.48 | 60 | N            | 1                  |
| 1" Tripane Low E2/E1 Arg |            | 0.22     | 0.25 | 0.42 | 69 | N, NC, SC, S | 1, 2               |
|                          | SDLN < 1 " | 0.22     | 0.23 | 0.38 | 69 | N, NC, SC, S | 1, 2               |

### THERMAL PERFORMANCE

#### WOOD FRENCH CASEMENT

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg       |            | 0.28     | 0.28 | 0.48 | 59 | NC           | 1                  |
|                          | SDLS < 1 " | 0.28     | 0.26 | 0.43 | 59 | NC           | 1                  |
| 3/4" IG Low E2 Air       |            | 0.31     | 0.28 | 0.48 | 56 |              |                    |
|                          | SDLS < 1 " | 0.31     | 0.26 | 0.43 | 56 |              |                    |
| 3/4" IG Low E3 Arg       |            | 0.27     | 0.19 | 0.43 | 60 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.17 | 0.39 | 60 | N, NC, SC, S | 1                  |
| 3/4" IG Low E1 Arg       |            | 0.28     | 0.46 | 0.53 | 59 | N            | 1, 2               |
|                          | SDLS < 1 " | 0.28     | 0.42 | 0.48 | 59 | N            | 1, 2               |
| 1" Tripane Low E2/E1 Arg |            | 0.22     | 0.25 | 0.42 | 68 | N, NC, SC, S | 1, 2               |
|                          | SDLN < 1 " | 0.22     | 0.23 | 0.38 | 68 | N, NC, SC, S | 1, 2               |

#### WOOD FRENCH CASEMENT PUSH OUT

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg       |            | 0.29     | 0.28 | 0.48 | 60 | NC           |                    |
|                          | SDLS < 1 " | 0.29     | 0.26 | 0.43 | 60 | NC           |                    |
| 3/4" IG Low E2 Air       |            | 0.32     | 0.28 | 0.48 | 57 |              |                    |
|                          | SDLS < 1 " | 0.32     | 0.26 | 0.43 | 57 |              |                    |
| 3/4" IG Low E3 Arg       |            | 0.28     | 0.19 | 0.43 | 61 | NC, SC, S    | 1                  |
|                          | SDLS < 1 " | 0.28     | 0.17 | 0.39 | 61 | NC, SC, S    |                    |
| 3/4" IG Low E1 Arg       |            | 0.29     | 0.46 | 0.53 | 60 | N            | 1, 2               |
|                          | SDLS < 1 " | 0.29     | 0.42 | 0.48 | 60 | N            | 1                  |
| 1" Tripane Low E2/E1 Arg |            | 0.22     | 0.25 | 0.42 | 69 | N, NC, SC, S | 1, 2               |
|                          | SDLN < 1 " | 0.22     | 0.23 | 0.38 | 69 | N, NC, SC, S | 1, 2               |

Thermal performance information is provided for common glazing and product options and related National Fenestration Rating Council (NFRC) values, and is current as of 11/12/2019. Information regarding additional glazing and product options and configurations is available via the online tool at [marvin.com/support/energy-data](http://marvin.com/support/energy-data). Information regarding the NFRC rating system is available at [nfr.org/WindowRatings](http://nfr.org/WindowRatings).

### THERMAL PERFORMANCE

#### CASEMENT AND FRENCH CASEMENT

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg       |            | 0.29     | 0.29 | 0.49 | 58 | NC           |                    |
|                          | SDLS < 1 " | 0.29     | 0.26 | 0.44 | 58 | NC           |                    |
|                          | SDLN < 1 " | 0.29     | 0.26 | 0.44 | 58 | NC           |                    |
| 3/4" IG Low E2 Air       |            | 0.32     | 0.29 | 0.49 | 55 |              |                    |
|                          | SDLS < 1 " | 0.32     | 0.26 | 0.44 | 55 |              |                    |
|                          | SDLN < 1 " | 0.32     | 0.26 | 0.44 | 55 |              |                    |
| 3/4" IG Low E3 Arg       |            | 0.29     | 0.19 | 0.44 | 58 | NC, SC, S    |                    |
|                          | SDLS < 1 " | 0.29     | 0.18 | 0.40 | 58 | NC, SC, S    |                    |
|                          | SDLN < 1 " | 0.29     | 0.18 | 0.40 | 58 | NC, SC, S    |                    |
| 3/4" IG Low E1 Arg       |            | 0.30     | 0.47 | 0.54 | 57 | N            | 1, 2               |
|                          | SDLS < 1 " | 0.30     | 0.43 | 0.49 | 57 | N            | 1                  |
|                          | SDLN < 1 " | 0.30     | 0.43 | 0.49 | 57 | N            | 1                  |
| 1" Tripane Low E2/E1 Arg |            | 0.23     | 0.26 | 0.43 | 66 | N, NC        | 1, 2               |
|                          | SDLN < 1 " | 0.23     | 0.24 | 0.39 | 66 | N, NC, SC, S | 1, 2               |

#### FRENCH CASEMENT PUSH OUT

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg       |            | 0.30     | 0.29 | 0.49 | 59 | NC           |                    |
|                          | SDLS < 1 " | 0.30     | 0.26 | 0.44 | 59 | NC           |                    |
|                          | SDLN < 1 " | 0.30     | 0.26 | 0.44 | 59 | NC           |                    |
| 3/4" IG Low E2 Air       |            | 0.33     | 0.29 | 0.49 | 55 |              |                    |
|                          | SDLS < 1 " | 0.33     | 0.26 | 0.44 | 55 |              |                    |
|                          | SDLN < 1 " | 0.33     | 0.26 | 0.44 | 55 |              |                    |
| 3/4" IG Low E3 Arg       |            | 0.30     | 0.19 | 0.44 | 59 | NC, SC, S    |                    |
|                          | SDLS < 1 " | 0.30     | 0.18 | 0.40 | 59 | NC, SC, S    |                    |
|                          | SDLN < 1 " | 0.30     | 0.18 | 0.40 | 59 | NC, SC, S    |                    |
| 3/4" IG Low E1 Arg       |            | 0.31     | 0.47 | 0.54 | 58 |              | 1                  |
|                          | SDLS < 1 " | 0.31     | 0.43 | 0.49 | 58 |              | 1                  |
|                          | SDLN < 1 " | 0.31     | 0.43 | 0.49 | 58 |              | 1                  |
| 1" Tripane Low E2/E1 Arg |            | 0.24     | 0.26 | 0.43 | 68 | N, NC        | 1, 2               |
|                          | SDLN < 1 " | 0.24     | 0.24 | 0.39 | 68 | N, NC, SC, S | 1, 2               |

Thermal performance information is provided for common glazing and product options and related National Fenestration Rating Council (NFRC) values, and is current as of 11/12/2019. Information regarding additional glazing and product options and configurations is available via the online tool at [marvin.com/support/energy-data](http://marvin.com/support/energy-data). Information regarding the NFRC rating system is available at [nfr.org/WindowRatings](http://nfr.org/WindowRatings).

### THERMAL PERFORMANCE

#### WOOD CASEMENT POLYGON AND POLYGON OPERATOR

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg       |            | 0.28     | 0.28 | 0.48 | 59 | NC           | 1                  |
|                          | SDLS < 1 " | 0.28     | 0.26 | 0.43 | 59 | NC           | 1                  |
|                          | SDLN < 1 " | 0.28     | 0.26 | 0.43 | 59 | NC           | 1                  |
| 3/4" IG Low E2 Air       |            | 0.31     | 0.28 | 0.48 | 56 |              |                    |
|                          | SDLS < 1 " | 0.31     | 0.26 | 0.43 | 56 |              |                    |
|                          | SDLN < 1 " | 0.31     | 0.26 | 0.43 | 56 |              |                    |
| 3/4" IG Low E3 Arg       |            | 0.27     | 0.19 | 0.43 | 60 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.17 | 0.39 | 60 | N, NC, SC, S | 1                  |
|                          | SDLN < 1 " | 0.27     | 0.17 | 0.39 | 60 | N, NC, SC, S | 1                  |
| 3/4" IG Low E1 Arg       |            | 0.28     | 0.46 | 0.53 | 59 | N            | 1, 2               |
|                          | SDLS < 1 " | 0.28     | 0.42 | 0.48 | 59 | N            | 1, 2               |
|                          | SDLN < 1 " | 0.28     | 0.42 | 0.48 | 59 | N            | 1, 2               |
| 1" Tripane Low E2/E1 Arg |            | 0.22     | 0.25 | 0.42 | 68 | N, NC, SC, S | 1, 2               |
|                          | SDLN < 1 " | 0.22     | 0.23 | 0.38 | 68 | N, NC, SC, S | 1, 2               |

#### WOOD CASEMENT NARROW FRAME PUSH OUT

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|-------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.29     | 0.28 | 0.48 | 60 | NC          |                    |
|                    | SDLS < 1 " | 0.29     | 0.26 | 0.43 | 60 | NC          |                    |
|                    | SDLN < 1 " | 0.29     | 0.26 | 0.43 | 60 | NC          |                    |
| 3/4" IG Low E2 Air |            | 0.32     | 0.28 | 0.48 | 57 |             |                    |
|                    | SDLS < 1 " | 0.32     | 0.26 | 0.43 | 57 |             |                    |
|                    | SDLN < 1 " | 0.32     | 0.26 | 0.43 | 57 |             |                    |
| 3/4" IG Low E3 Arg |            | 0.28     | 0.19 | 0.43 | 61 | NC, SC, S   | 1                  |
|                    | SDLS < 1 " | 0.28     | 0.17 | 0.39 | 61 | NC, SC, S   |                    |
|                    | SDLN < 1 " | 0.28     | 0.17 | 0.39 | 61 | NC, SC, S   |                    |
| 3/4" IG Low E1 Arg |            | 0.30     | 0.46 | 0.53 | 60 | N           | 1, 2               |
|                    | SDLS < 1 " | 0.30     | 0.42 | 0.48 | 60 | N           | 1                  |
|                    | SDLN < 1 " | 0.30     | 0.42 | 0.48 | 60 | N           | 1                  |

#### CASEMENT NARROW FRAME PUSH OUT

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|-------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.31     | 0.29 | 0.49 | 59 |             |                    |
|                    | SDLS < 1 " | 0.31     | 0.27 | 0.44 | 59 |             |                    |
|                    | SDLN < 1 " | 0.31     | 0.27 | 0.44 | 59 |             |                    |
| 3/4" IG Low E2 Air |            | 0.34     | 0.29 | 0.49 | 56 |             |                    |
|                    | SDLS < 1 " | 0.34     | 0.27 | 0.44 | 56 |             |                    |
|                    | SDLN < 1 " | 0.34     | 0.27 | 0.44 | 56 |             |                    |
| 3/4" IG Low E3 Arg |            | 0.31     | 0.19 | 0.44 | 59 | S           |                    |
|                    | SDLS < 1 " | 0.31     | 0.18 | 0.40 | 59 | S           |                    |
|                    | SDLN < 1 " | 0.31     | 0.18 | 0.40 | 59 | S           |                    |
| 3/4" IG Low E1 Arg |            | 0.32     | 0.48 | 0.54 | 58 |             | 1                  |
|                    | SDLS < 1 " | 0.32     | 0.43 | 0.49 | 58 |             | 1                  |
|                    | SDLN < 1 " | 0.32     | 0.43 | 0.49 | 58 |             | 1                  |

**THERMAL PERFORMANCE**

CASEMENT NARROW FRAME PICTURE

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|-------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.28     | 0.33 | 0.57 | 58 | N, NC       | 1                  |
|                    | SDLS < 1 " | 0.28     | 0.30 | 0.51 | 58 | NC          | 1                  |
|                    | SDLN < 1 " | 0.28     | 0.30 | 0.51 | 58 | NC          | 1                  |
| 3/4" IG Low E2 Air |            | 0.32     | 0.33 | 0.57 | 54 |             |                    |
|                    | SDLS < 1 " | 0.32     | 0.30 | 0.51 | 54 |             |                    |
|                    | SDLN < 1 " | 0.32     | 0.30 | 0.51 | 54 |             |                    |
| 3/4" IG Low E3 Arg |            | 0.28     | 0.22 | 0.51 | 58 | NC, SC, S   | 1                  |
|                    | SDLS < 1 " | 0.28     | 0.20 | 0.46 | 58 | NC, SC, S   | 1                  |
|                    | SDLN < 1 " | 0.28     | 0.20 | 0.46 | 58 | NC, SC, S   | 1                  |
| 3/4" IG Low E1 Arg |            | 0.29     | 0.55 | 0.63 | 57 | N           | 1, 2, 3            |
|                    | SDLS < 1 " | 0.29     | 0.49 | 0.56 | 57 | N           | 1, 2               |
|                    | SDLN < 1 " | 0.29     | 0.49 | 0.56 | 57 | N           | 1, 2               |

CASEMENT STATIONARY POLYGON

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg       |            | 0.31     | 0.29 | 0.49 | 54 |              |                    |
|                          | SDLS < 1 " | 0.31     | 0.26 | 0.44 | 54 |              |                    |
|                          | SDLN < 1 " | 0.31     | 0.26 | 0.44 | 54 |              |                    |
| 3/4" IG Low E2 Air       |            | 0.34     | 0.29 | 0.49 | 51 |              |                    |
|                          | SDLS < 1 " | 0.34     | 0.26 | 0.44 | 51 |              |                    |
|                          | SDLN < 1 " | 0.34     | 0.26 | 0.44 | 51 |              |                    |
| 3/4" IG Low E3 Arg       |            | 0.31     | 0.19 | 0.44 | 54 | S            |                    |
|                          | SDLS < 1 " | 0.31     | 0.18 | 0.40 | 54 | S            |                    |
|                          | SDLN < 1 " | 0.31     | 0.18 | 0.40 | 54 | S            |                    |
| 3/4" IG Low E1 Arg       |            | 0.32     | 0.47 | 0.54 | 54 |              | 1                  |
|                          | SDLS < 1 " | 0.32     | 0.43 | 0.49 | 54 |              | 1                  |
|                          | SDLN < 1 " | 0.32     | 0.43 | 0.49 | 54 |              | 1                  |
| 1" Tripane Low E2/E1 Arg |            | 0.25     | 0.26 | 0.43 | 61 | N, NC        | 1, 2               |
|                          | SDLN < 1 " | 0.25     | 0.24 | 0.39 | 61 | N, NC, SC, S | 1, 2               |

Thermal performance information is provided for common glazing and product options and related National Fenestration Rating Council (NFRC) values, and is current as of 11/12/2019. Information regarding additional glazing and product options and configurations is available via the online tool at [marvin.com/support/energy-data](http://marvin.com/support/energy-data). Information regarding the NFRC rating system is available at [nfr.org/WindowRatings](http://nfr.org/WindowRatings).

**THERMAL PERFORMANCE**

WOOD AWNING

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg       |            | 0.28     | 0.27 | 0.46 | 58 | NC           | 1                  |
|                          | SDLS < 1 " | 0.28     | 0.25 | 0.42 | 58 | NC, SC, S    | 1                  |
|                          | SDLN < 1 " | 0.28     | 0.25 | 0.42 | 58 | NC, SC, S    | 1                  |
| 3/4" IG Low E2 Air       |            | 0.30     | 0.27 | 0.46 | 54 | NC           |                    |
|                          | SDLS < 1 " | 0.30     | 0.25 | 0.42 | 54 | NC, SC, S    |                    |
|                          | SDLN < 1 " | 0.30     | 0.25 | 0.42 | 54 | NC, SC, S    |                    |
| 3/4" IG Low E3 Arg       |            | 0.27     | 0.18 | 0.42 | 59 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.16 | 0.38 | 59 | N, NC, SC, S |                    |
|                          | SDLN < 1 " | 0.27     | 0.16 | 0.38 | 59 | N, NC, SC, S |                    |
| 3/4" IG Low E1 Arg       |            | 0.28     | 0.45 | 0.51 | 58 | N            | 1, 2               |
|                          | SDLS < 1 " | 0.28     | 0.40 | 0.46 | 58 | N, NC        | 1                  |
|                          | SDLN < 1 " | 0.28     | 0.40 | 0.46 | 58 | N, NC        | 1                  |
| 1" Tripane Low E2/E1 Arg |            | 0.21     | 0.24 | 0.41 | 69 | N, NC, SC, S | 1, 2, 3            |
|                          | SDLN < 1 " | 0.21     | 0.22 | 0.37 | 69 | N, NC, SC, S | 1, 2, 3            |

AWNING

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg       |            | 0.30     | 0.29 | 0.49 | 57 | NC           |                    |
|                          | SDLS < 1 " | 0.30     | 0.26 | 0.44 | 57 | NC           |                    |
|                          | SDLN < 1 " | 0.30     | 0.26 | 0.44 | 57 | NC           |                    |
| 3/4" IG Low E2 Air       |            | 0.33     | 0.29 | 0.49 | 53 |              |                    |
|                          | SDLS < 1 " | 0.33     | 0.26 | 0.44 | 53 |              |                    |
|                          | SDLN < 1 " | 0.33     | 0.26 | 0.44 | 53 |              |                    |
| 3/4" IG Low E3 Arg       |            | 0.29     | 0.19 | 0.44 | 57 | NC, SC, S    |                    |
|                          | SDLS < 1 " | 0.29     | 0.18 | 0.40 | 57 | NC, SC, S    |                    |
|                          | SDLN < 1 " | 0.29     | 0.18 | 0.40 | 57 | NC, SC, S    |                    |
| 3/4" IG Low E1 Arg       |            | 0.30     | 0.47 | 0.54 | 57 | N            | 1, 2               |
|                          | SDLS < 1 " | 0.30     | 0.43 | 0.49 | 57 | N            | 1                  |
|                          | SDLN < 1 " | 0.30     | 0.43 | 0.49 | 57 | N            | 1                  |
| 1" Tripane Low E2/E1 Arg |            | 0.23     | 0.26 | 0.43 | 67 | N, NC        | 1, 2               |
|                          | SDLN < 1 " | 0.23     | 0.24 | 0.39 | 67 | N, NC, SC, S | 1, 2               |

### THERMAL PERFORMANCE

#### WOOD AWNING PUSH OUT

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg       |            | 0.29     | 0.27 | 0.46 | 59 | NC           |                    |
|                          | SDLS < 1 " | 0.29     | 0.25 | 0.42 | 59 | NC, SC, S    |                    |
|                          | SDLN < 1 " | 0.29     | 0.25 | 0.42 | 59 | NC, SC, S    |                    |
| 3/4" IG Low E2 Air       |            | 0.32     | 0.27 | 0.46 | 55 |              |                    |
|                          | SDLS < 1 " | 0.32     | 0.25 | 0.42 | 55 | S            |                    |
|                          | SDLN < 1 " | 0.32     | 0.25 | 0.42 | 55 | S            |                    |
| 3/4" IG Low E3 Arg       |            | 0.28     | 0.18 | 0.42 | 60 | NC, SC, S    |                    |
|                          | SDLS < 1 " | 0.28     | 0.16 | 0.38 | 60 | NC, SC, S    |                    |
|                          | SDLN < 1 " | 0.28     | 0.16 | 0.38 | 60 | NC, SC, S    |                    |
| 3/4" IG Low E1 Arg       |            | 0.29     | 0.45 | 0.51 | 59 | N            | 1, 2               |
|                          | SDLS < 1 " | 0.29     | 0.40 | 0.46 | 59 | N, NC        | 1                  |
|                          | SDLN < 1 " | 0.29     | 0.40 | 0.46 | 59 | N, NC        | 1                  |
| 1" Tripane Low E2/E1 Arg |            | 0.22     | 0.25 | 0.41 | 70 | N, NC, SC, S | 1, 2               |
|                          | SDLN < 1 " | 0.22     | 0.22 | 0.37 | 70 | N, NC, SC, S | 1, 2               |

#### AWNING PUSH OUT

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg       |            | 0.31     | 0.29 | 0.49 | 58 |              |                    |
|                          | SDLS < 1 " | 0.31     | 0.26 | 0.44 | 58 |              |                    |
|                          | SDLN < 1 " | 0.31     | 0.26 | 0.44 | 58 |              |                    |
| 3/4" IG Low E2 Air       |            | 0.34     | 0.29 | 0.49 | 54 |              |                    |
|                          | SDLS < 1 " | 0.34     | 0.26 | 0.44 | 54 |              |                    |
|                          | SDLN < 1 " | 0.34     | 0.26 | 0.44 | 54 |              |                    |
| 3/4" IG Low E3 Arg       |            | 0.30     | 0.19 | 0.44 | 58 | NC, SC, S    |                    |
|                          | SDLS < 1 " | 0.30     | 0.18 | 0.40 | 58 | NC, SC, S    |                    |
|                          | SDLN < 1 " | 0.30     | 0.18 | 0.40 | 58 | NC, SC, S    |                    |
| 3/4" IG Low E1 Arg       |            | 0.32     | 0.47 | 0.54 | 58 |              | 1                  |
|                          | SDLS < 1 " | 0.32     | 0.43 | 0.49 | 58 |              | 1                  |
|                          | SDLN < 1 " | 0.32     | 0.43 | 0.49 | 58 |              | 1                  |
| 1" Tripane Low E2/E1 Arg |            | 0.24     | 0.26 | 0.43 | 68 | N, NC        | 1, 2               |
|                          | SDLN < 1 " | 0.24     | 0.24 | 0.39 | 68 | N, NC, SC, S | 1, 2               |

### THERMAL PERFORMANCE

#### WOOD AWNING NARROW FRAME PUSH OUT

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|-------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.29     | 0.27 | 0.46 | 59 | NC          |                    |
|                    | SDLS < 1 " | 0.29     | 0.25 | 0.42 | 59 | NC, SC, S   |                    |
|                    | SDLN < 1 " | 0.29     | 0.25 | 0.42 | 59 | NC, SC, S   |                    |
| 3/4" IG Low E2 Air |            | 0.32     | 0.27 | 0.46 | 56 |             |                    |
|                    | SDLS < 1 " | 0.32     | 0.25 | 0.42 | 56 | S           |                    |
|                    | SDLN < 1 " | 0.32     | 0.25 | 0.42 | 56 | S           |                    |
| 3/4" IG Low E3 Arg |            | 0.28     | 0.18 | 0.42 | 60 | NC, SC, S   | 1                  |
|                    | SDLS < 1 " | 0.28     | 0.17 | 0.38 | 60 | NC, SC, S   |                    |
|                    | SDLN < 1 " | 0.28     | 0.17 | 0.38 | 60 | NC, SC, S   |                    |
| 3/4" IG Low E1 Arg |            | 0.30     | 0.45 | 0.51 | 59 | N           | 1, 2               |
|                    | SDLS < 1 " | 0.30     | 0.41 | 0.46 | 59 |             | 1                  |
|                    | SDLN < 1 " | 0.30     | 0.41 | 0.46 | 59 |             | 1                  |

#### AWNING NARROW FRAME PUSH OUT

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|-------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.32     | 0.29 | 0.49 | 58 |             |                    |
|                    | SDLS < 1 " | 0.32     | 0.27 | 0.44 | 58 |             |                    |
|                    | SDLN < 1 " | 0.32     | 0.27 | 0.44 | 58 |             |                    |
| 3/4" IG Low E2 Air |            | 0.35     | 0.29 | 0.49 | 54 |             |                    |
|                    | SDLS < 1 " | 0.35     | 0.27 | 0.44 | 54 |             |                    |
|                    | SDLN < 1 " | 0.35     | 0.27 | 0.44 | 54 |             |                    |
| 3/4" IG Low E3 Arg |            | 0.31     | 0.19 | 0.44 | 59 | S           |                    |
|                    | SDLS < 1 " | 0.31     | 0.18 | 0.40 | 59 | S           |                    |
|                    | SDLN < 1 " | 0.31     | 0.18 | 0.40 | 59 | S           |                    |
| 3/4" IG Low E1 Arg |            | 0.32     | 0.48 | 0.54 | 58 |             | 1                  |
|                    | SDLS < 1 " | 0.32     | 0.43 | 0.49 | 58 |             | 1                  |
|                    | SDLN < 1 " | 0.32     | 0.43 | 0.49 | 58 |             | 1                  |

Thermal performance information is provided for common glazing and product options and related National Fenestration Rating Council (NFRC) values, and is current as of 11/12/2019. Information regarding additional glazing and product options and configurations is available via the online tool at [marvin.com/support/energy-data](http://marvin.com/support/energy-data). Information regarding the NFRC rating system is available at [nfr.org/WindowRatings](http://nfr.org/WindowRatings).

### THERMAL PERFORMANCE

#### CASEMENT INSWING

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|-------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.32     | 0.24 | 0.40 | 59 | S           |                    |
|                    | SDLS < 1 " | 0.32     | 0.22 | 0.36 | 59 | S           |                    |
|                    | SDLN < 1 " | 0.32     | 0.22 | 0.36 | 59 | S           |                    |
| 3/4" IG Low E2 Air |            | 0.35     | 0.24 | 0.40 | 57 | S           |                    |
|                    | SDLS < 1 " | 0.35     | 0.22 | 0.36 | 57 | S           |                    |
|                    | SDLN < 1 " | 0.35     | 0.22 | 0.36 | 57 | S           |                    |
| 3/4" IG Low E3 Arg |            | 0.32     | 0.16 | 0.36 | 59 | S           |                    |
|                    | SDLS < 1 " | 0.32     | 0.15 | 0.32 | 59 | S           |                    |
|                    | SDLN < 1 " | 0.32     | 0.15 | 0.32 | 59 | S           |                    |
| 3/4" IG Low E1 Arg |            | 0.33     | 0.39 | 0.44 | 59 |             |                    |
|                    | SDLS < 1 " | 0.33     | 0.35 | 0.39 | 59 |             |                    |
|                    | SDLN < 1 " | 0.33     | 0.35 | 0.39 | 59 |             |                    |

#### WOOD CASEMENT PICTURE

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg       |            | 0.27     | 0.32 | 0.56 | 59 | N, NC        | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.29 | 0.50 | 59 | N, NC        | 1                  |
|                          | SDLN < 1 " | 0.27     | 0.29 | 0.50 | 59 | N, NC        | 1                  |
| 3/4" IG Low E2 Air       |            | 0.30     | 0.33 | 0.56 | 55 | NC           |                    |
|                          | SDLS < 1 " | 0.30     | 0.29 | 0.50 | 55 | NC           |                    |
|                          | SDLN < 1 " | 0.30     | 0.29 | 0.50 | 55 | NC           |                    |
| 3/4" IG Low E3 Arg       |            | 0.26     | 0.21 | 0.50 | 59 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.26     | 0.19 | 0.45 | 59 | N, NC, SC, S | 1                  |
|                          | SDLN < 1 " | 0.26     | 0.19 | 0.45 | 59 | N, NC, SC, S | 1                  |
| 3/4" IG Low E1 Arg       |            | 0.27     | 0.54 | 0.62 | 58 | N            | 1, 2, 3            |
|                          | SDLS < 1 " | 0.27     | 0.48 | 0.55 | 58 | N            | 1, 2, 3            |
|                          | SDLN < 1 " | 0.27     | 0.48 | 0.55 | 58 | N            | 1, 2, 3            |
| 1" IG Low E2 Arg         |            | 0.27     | 0.32 | 0.55 | 58 | N, NC        | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.29 | 0.49 | 58 | N, NC        | 1                  |
|                          | SDLN < 1 " | 0.27     | 0.29 | 0.49 | 58 | N, NC        | 1                  |
| 1" IG Low E2 Air         |            | 0.30     | 0.32 | 0.55 | 55 | NC           |                    |
|                          | SDLS < 1 " | 0.30     | 0.29 | 0.49 | 55 | NC           |                    |
|                          | SDLN < 1 " | 0.30     | 0.29 | 0.49 | 55 | NC           |                    |
| 1" IG Low E3 Arg         |            | 0.26     | 0.21 | 0.49 | 59 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.26     | 0.19 | 0.44 | 59 | N, NC, SC, S | 1                  |
|                          | SDLN < 1 " | 0.26     | 0.19 | 0.44 | 59 | N, NC, SC, S | 1                  |
| 1" IG Low E1 Arg         |            | 0.28     | 0.52 | 0.61 | 58 | N            | 1, 2, 3            |
|                          | SDLS < 1 " | 0.28     | 0.46 | 0.54 | 58 | N            | 1, 2               |
|                          | SDLN < 1 " | 0.28     | 0.46 | 0.54 | 58 | N            | 1, 2               |
| 1" Tripane Low E2/E1 Arg |            | 0.20     | 0.29 | 0.49 | 68 | N, NC        | 1, 2, 3            |
|                          | SDLN < 1 " | 0.20     | 0.26 | 0.44 | 68 | N, NC        | 1, 2, 3            |

### THERMAL PERFORMANCE

#### CASEMENT PICTURE

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg       |            | 0.28     | 0.33 | 0.57 | 57 | N, NC        | 1                  |
|                          | SDLS < 1 " | 0.28     | 0.30 | 0.51 | 57 | NC           | 1                  |
|                          | SDLN < 1 " | 0.28     | 0.30 | 0.51 | 57 | NC           | 1                  |
| 3/4" IG Low E2 Air       |            | 0.31     | 0.33 | 0.57 | 54 |              |                    |
|                          | SDLS < 1 " | 0.31     | 0.30 | 0.51 | 54 |              |                    |
|                          | SDLN < 1 " | 0.31     | 0.30 | 0.51 | 54 |              |                    |
| 3/4" IG Low E3 Arg       |            | 0.27     | 0.22 | 0.51 | 58 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.20 | 0.46 | 58 | N, NC, SC, S | 1                  |
|                          | SDLN < 1 " | 0.27     | 0.20 | 0.46 | 58 | N, NC, SC, S | 1                  |
| 3/4" IG Low E1 Arg       |            | 0.29     | 0.55 | 0.63 | 57 | N            | 1, 2, 3            |
|                          | SDLS < 1 " | 0.29     | 0.49 | 0.56 | 57 | N            | 1, 2               |
|                          | SDLN < 1 " | 0.29     | 0.49 | 0.56 | 57 | N            | 1, 2               |
| 1" IG Low E2 Arg         |            | 0.28     | 0.32 | 0.56 | 57 | N, NC        | 1                  |
|                          | SDLS < 1 " | 0.28     | 0.29 | 0.50 | 57 | NC           | 1                  |
|                          | SDLN < 1 " | 0.28     | 0.29 | 0.50 | 57 | NC           | 1                  |
| 1" IG Low E2 Air         |            | 0.32     | 0.33 | 0.56 | 54 |              |                    |
|                          | SDLS < 1 " | 0.32     | 0.29 | 0.50 | 54 |              |                    |
|                          | SDLN < 1 " | 0.32     | 0.29 | 0.50 | 54 |              |                    |
| 1" IG Low E3 Arg         |            | 0.28     | 0.22 | 0.50 | 57 | NC, SC, S    | 1                  |
|                          | SDLS < 1 " | 0.28     | 0.20 | 0.45 | 57 | NC, SC, S    | 1                  |
|                          | SDLN < 1 " | 0.28     | 0.20 | 0.45 | 57 | NC, SC, S    | 1                  |
| 1" IG Low E1 Arg         |            | 0.29     | 0.53 | 0.62 | 56 | N            | 1, 2, 3            |
|                          | SDLS < 1 " | 0.29     | 0.47 | 0.55 | 56 | N            | 1, 2               |
|                          | SDLN < 1 " | 0.29     | 0.47 | 0.55 | 56 | N            | 1, 2               |
| 1" Tripane Low E2/E1 Arg |            | 0.21     | 0.30 | 0.50 | 67 | N, NC        | 1, 2, 3            |
|                          | SDLN < 1 " | 0.21     | 0.27 | 0.45 | 67 | N, NC        | 1, 2, 3            |

Thermal performance information is provided for common glazing and product options and related National Fenestration Rating Council (NFRC) values, and is current as of 11/12/2019. Information regarding additional glazing and product options and configurations is available via the online tool at [marvin.com/support/energy-data](http://marvin.com/support/energy-data). Information regarding the NFRC rating system is available at [nfr.org/WindowRatings](http://nfr.org/WindowRatings).

### THERMAL PERFORMANCE

#### WOOD CASEMENT PUSH OUT PICTURE

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg       |            | 0.27     | 0.32 | 0.56 | 59 | N, NC        | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.29 | 0.50 | 59 | N, NC        | 1                  |
|                          | SDLN < 1 " | 0.27     | 0.29 | 0.50 | 59 | N, NC        | 1                  |
| 3/4" IG Low E2 Air       |            | 0.30     | 0.33 | 0.56 | 56 | NC           |                    |
|                          | SDLS < 1 " | 0.30     | 0.29 | 0.50 | 56 | NC           |                    |
|                          | SDLN < 1 " | 0.30     | 0.29 | 0.50 | 56 | NC           |                    |
| 3/4" IG Low E3 Arg       |            | 0.26     | 0.21 | 0.50 | 60 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.26     | 0.19 | 0.45 | 60 | N, NC, SC, S | 1                  |
|                          | SDLN < 1 " | 0.26     | 0.19 | 0.45 | 60 | N, NC, SC, S | 1                  |
| 3/4" IG Low E1 Arg       |            | 0.28     | 0.54 | 0.62 | 59 | N            | 1, 2, 3            |
|                          | SDLS < 1 " | 0.28     | 0.48 | 0.55 | 59 | N            | 1, 2               |
|                          | SDLN < 1 " | 0.28     | 0.48 | 0.55 | 59 | N            | 1, 2               |
| 1" IG Low E2 Arg         |            | 0.27     | 0.32 | 0.55 | 59 | N, NC        | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.29 | 0.49 | 59 | N, NC        | 1                  |
|                          | SDLN < 1 " | 0.27     | 0.29 | 0.49 | 59 | N, NC        | 1                  |
| 1" IG Low E2 Air         |            | 0.31     | 0.32 | 0.55 | 55 |              |                    |
|                          | SDLS < 1 " | 0.31     | 0.29 | 0.49 | 55 |              |                    |
|                          | SDLN < 1 " | 0.31     | 0.29 | 0.49 | 55 |              |                    |
| 1" IG Low E3 Arg         |            | 0.27     | 0.21 | 0.49 | 59 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.19 | 0.44 | 59 | N, NC, SC, S | 1                  |
|                          | SDLN < 1 " | 0.27     | 0.19 | 0.44 | 59 | N, NC, SC, S | 1                  |
| 1" IG Low E1 Arg         |            | 0.28     | 0.52 | 0.61 | 58 | N            | 1, 2, 3            |
|                          | SDLS < 1 " | 0.28     | 0.46 | 0.54 | 58 | N            | 1, 2               |
|                          | SDLN < 1 " | 0.28     | 0.46 | 0.54 | 58 | N            | 1, 2               |
| 1" Tripane Low E2/E1 Arg |            | 0.20     | 0.29 | 0.49 | 69 | N, NC        | 1, 2, 3            |
|                          | SDLN < 1 " | 0.20     | 0.26 | 0.44 | 69 | N, NC        | 1, 2, 3            |

### THERMAL PERFORMANCE

#### CASEMENT PUSH OUT PICTURE

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|-------------|--------------------|
| 3/4" IG Low E2 Arg       |            | 0.28     | 0.33 | 0.57 | 58 | N, NC       | 1                  |
|                          | SDLS < 1 " | 0.28     | 0.30 | 0.51 | 58 | NC          | 1                  |
|                          | SDLN < 1 " | 0.28     | 0.30 | 0.51 | 58 | NC          | 1                  |
| 3/4" IG Low E2 Air       |            | 0.32     | 0.33 | 0.57 | 55 |             |                    |
|                          | SDLS < 1 " | 0.32     | 0.30 | 0.51 | 55 |             |                    |
|                          | SDLN < 1 " | 0.32     | 0.30 | 0.51 | 55 |             |                    |
| 3/4" IG Low E3 Arg       |            | 0.28     | 0.22 | 0.51 | 58 | NC, SC, S   | 1                  |
|                          | SDLS < 1 " | 0.28     | 0.20 | 0.46 | 58 | NC, SC, S   | 1                  |
|                          | SDLN < 1 " | 0.28     | 0.20 | 0.46 | 58 | NC, SC, S   | 1                  |
| 3/4" IG Low E1 Arg       |            | 0.29     | 0.55 | 0.63 | 58 | N           | 1, 2, 3            |
|                          | SDLS < 1 " | 0.29     | 0.49 | 0.56 | 58 | N           | 1, 2               |
|                          | SDLN < 1 " | 0.29     | 0.49 | 0.56 | 58 | N           | 1, 2               |
| 1" IG Low E2 Arg         |            | 0.29     | 0.32 | 0.56 | 57 | NC          |                    |
|                          | SDLS < 1 " | 0.29     | 0.29 | 0.50 | 57 | NC          |                    |
|                          | SDLN < 1 " | 0.29     | 0.29 | 0.50 | 57 | NC          |                    |
| 1" IG Low E2 Air         |            | 0.32     | 0.33 | 0.56 | 54 |             |                    |
|                          | SDLS < 1 " | 0.32     | 0.29 | 0.50 | 54 |             |                    |
|                          | SDLN < 1 " | 0.32     | 0.29 | 0.50 | 54 |             |                    |
| 1" IG Low E3 Arg         |            | 0.28     | 0.22 | 0.50 | 58 | NC, SC, S   | 1                  |
|                          | SDLS < 1 " | 0.28     | 0.20 | 0.45 | 58 | NC, SC, S   | 1                  |
|                          | SDLN < 1 " | 0.28     | 0.20 | 0.45 | 58 | NC, SC, S   | 1                  |
| 1" IG Low E1 Arg         |            | 0.29     | 0.53 | 0.62 | 57 | N           | 1, 2, 3            |
|                          | SDLS < 1 " | 0.29     | 0.47 | 0.55 | 57 | N           | 1, 2               |
|                          | SDLN < 1 " | 0.29     | 0.47 | 0.55 | 57 | N           | 1, 2               |
| 1" Tripane Low E2/E1 Arg |            | 0.21     | 0.30 | 0.50 | 68 | N, NC       | 1, 2, 3            |
|                          | SDLN < 1 " | 0.21     | 0.27 | 0.45 | 68 | N, NC       | 1, 2, 3            |

Thermal performance information is provided for common glazing and product options and related National Fenestration Rating Council (NFRC) values, and is current as of 11/12/2019. Information regarding additional glazing and product options and configurations is available via the online tool at [marvin.com/support/energy-data](http://marvin.com/support/energy-data). Information regarding the NFRC rating system is available at [nfr.org/WindowRatings](http://nfr.org/WindowRatings).

### THERMAL PERFORMANCE

#### CASEMENT VENTING PICTURE

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg       |            | 0.28     | 0.33 | 0.57 | 57 | N, NC        | 1                  |
|                          | SDLS < 1 " | 0.28     | 0.30 | 0.51 | 57 | NC           | 1                  |
|                          | SDLN < 1 " | 0.28     | 0.30 | 0.51 | 57 | NC           | 1                  |
| 3/4" IG Low E2 Air       |            | 0.31     | 0.33 | 0.57 | 54 |              |                    |
|                          | SDLS < 1 " | 0.31     | 0.30 | 0.51 | 54 |              |                    |
|                          | SDLN < 1 " | 0.31     | 0.30 | 0.51 | 54 |              |                    |
| 3/4" IG Low E3 Arg       |            | 0.27     | 0.22 | 0.51 | 58 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.20 | 0.46 | 58 | N, NC, SC, S | 1                  |
|                          | SDLN < 1 " | 0.27     | 0.20 | 0.46 | 58 | N, NC, SC, S | 1                  |
| 3/4" IG Low E1 Arg       |            | 0.28     | 0.55 | 0.63 | 57 | N            | 1, 2, 3            |
|                          | SDLS < 1 " | 0.28     | 0.49 | 0.56 | 57 | N            | 1, 2               |
|                          | SDLN < 1 " | 0.28     | 0.49 | 0.56 | 57 | N            | 1, 2               |
| 1" IG Low E2 Arg         |            | 0.28     | 0.32 | 0.56 | 57 | N, NC        | 1                  |
|                          | SDLS < 1 " | 0.28     | 0.29 | 0.50 | 57 | NC           | 1                  |
|                          | SDLN < 1 " | 0.28     | 0.29 | 0.50 | 57 | NC           | 1                  |
| 1" IG Low E2 Air         |            | 0.31     | 0.33 | 0.56 | 54 |              |                    |
|                          | SDLS < 1 " | 0.31     | 0.29 | 0.50 | 54 |              |                    |
|                          | SDLN < 1 " | 0.31     | 0.29 | 0.50 | 54 |              |                    |
| 1" IG Low E3 Arg         |            | 0.27     | 0.22 | 0.50 | 57 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.20 | 0.45 | 57 | N, NC, SC, S | 1                  |
|                          | SDLN < 1 " | 0.27     | 0.20 | 0.45 | 57 | N, NC, SC, S | 1                  |
| 1" IG Low E1 Arg         |            | 0.29     | 0.53 | 0.62 | 57 | N            | 1, 2, 3            |
|                          | SDLS < 1 " | 0.29     | 0.47 | 0.55 | 57 | N            | 1, 2               |
|                          | SDLN < 1 " | 0.29     | 0.47 | 0.55 | 57 | N            | 1, 2               |
| 1" Tripane Low E2/E1 Arg |            | 0.21     | 0.30 | 0.50 | 67 | N, NC        | 1, 2, 3            |
|                          | SDLN < 1 " | 0.21     | 0.27 | 0.45 | 67 | N, NC        | 1, 2, 3            |

#### WOOD CASEMENT NARROW FRAME OPERATOR POLYGON

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|-------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.28     | 0.28 | 0.48 | 59 | NC          | 1                  |
|                    | SDLS < 1 " | 0.28     | 0.26 | 0.43 | 59 | NC          | 1                  |
|                    | SDLN < 1 " | 0.28     | 0.26 | 0.43 | 59 | NC          | 1                  |
| 3/4" IG Low E2 Air |            | 0.31     | 0.28 | 0.48 | 56 |             |                    |
|                    | SDLS < 1 " | 0.31     | 0.26 | 0.43 | 56 |             |                    |
|                    | SDLN < 1 " | 0.31     | 0.26 | 0.43 | 56 |             |                    |
| 3/4" IG Low E3 Arg |            | 0.28     | 0.19 | 0.43 | 60 | NC, SC, S   | 1                  |
|                    | SDLS < 1 " | 0.28     | 0.17 | 0.39 | 60 | NC, SC, S   |                    |
|                    | SDLN < 1 " | 0.28     | 0.17 | 0.39 | 60 | NC, SC, S   |                    |
| 3/4" IG Low E1 Arg |            | 0.29     | 0.46 | 0.53 | 59 | N           | 1, 2               |
|                    | SDLS < 1 " | 0.29     | 0.42 | 0.48 | 59 | N           | 1                  |
|                    | SDLN < 1 " | 0.29     | 0.42 | 0.48 | 59 | N           | 1                  |

Thermal performance information is provided for common glazing and product options and related National Fenestration Rating Council (NFRC) values, and is current as of 11/12/2019. Information regarding additional glazing and product options and configurations is available via the online tool at [marvin.com/support/energy-data](http://marvin.com/support/energy-data). Information regarding the NFRC rating system is available at [nfr.org/WindowRatings](http://nfr.org/WindowRatings).

### THERMAL PERFORMANCE

#### CASEMENT NARROW FRAME POLYGON AND POLYGON OPERATOR

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|-------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.30     | 0.29 | 0.49 | 58 | NC          |                    |
|                    | SDLS < 1 " | 0.30     | 0.26 | 0.44 | 58 | NC          |                    |
|                    | SDLN < 1 " | 0.30     | 0.26 | 0.44 | 58 | NC          |                    |
| 3/4" IG Low E2 Air |            | 0.33     | 0.29 | 0.49 | 55 |             |                    |
|                    | SDLS < 1 " | 0.33     | 0.27 | 0.44 | 55 |             |                    |
|                    | SDLN < 1 " | 0.33     | 0.27 | 0.44 | 55 |             |                    |
| 3/4" IG Low E3 Arg |            | 0.30     | 0.19 | 0.44 | 58 | NC, SC, S   |                    |
|                    | SDLS < 1 " | 0.30     | 0.18 | 0.40 | 58 | NC, SC, S   |                    |
|                    | SDLN < 1 " | 0.30     | 0.18 | 0.40 | 58 | NC, SC, S   |                    |
| 3/4" IG Low E1 Arg |            | 0.31     | 0.48 | 0.54 | 58 |             | 1, 2               |
|                    | SDLS < 1 " | 0.31     | 0.43 | 0.49 | 58 |             | 1                  |
|                    | SDLN < 1 " | 0.31     | 0.43 | 0.49 | 58 |             | 1                  |

#### WOOD CASEMENT NARROW FRAME PUSH OUT PICTURE

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.27     | 0.32 | 0.56 | 59 | N, NC        | 1                  |
|                    | SDLS < 1 " | 0.27     | 0.29 | 0.50 | 59 | N, NC        | 1                  |
|                    | SDLN < 1 " | 0.27     | 0.29 | 0.50 | 59 | N, NC        | 1                  |
| 3/4" IG Low E2 Air |            | 0.31     | 0.33 | 0.56 | 56 |              |                    |
|                    | SDLS < 1 " | 0.31     | 0.29 | 0.50 | 56 |              |                    |
|                    | SDLN < 1 " | 0.31     | 0.29 | 0.50 | 56 |              |                    |
| 3/4" IG Low E3 Arg |            | 0.27     | 0.21 | 0.50 | 60 | N, NC, SC, S | 1                  |
|                    | SDLS < 1 " | 0.27     | 0.19 | 0.45 | 60 | N, NC, SC, S | 1                  |
|                    | SDLN < 1 " | 0.27     | 0.19 | 0.45 | 60 | N, NC, SC, S | 1                  |
| 3/4" IG Low E1 Arg |            | 0.28     | 0.54 | 0.62 | 59 | N            | 1, 2, 3            |
|                    | SDLS < 1 " | 0.28     | 0.48 | 0.55 | 59 | N            | 1, 2               |
|                    | SDLN < 1 " | 0.28     | 0.48 | 0.55 | 59 | N            | 1, 2               |

#### CASEMENT NARROW FRAME PUSH OUT PICTURE

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|-------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.29     | 0.33 | 0.57 | 58 | NC          |                    |
|                    | SDLS < 1 " | 0.29     | 0.30 | 0.51 | 58 | NC          |                    |
|                    | SDLN < 1 " | 0.29     | 0.30 | 0.51 | 58 | NC          |                    |
| 3/4" IG Low E2 Air |            | 0.32     | 0.34 | 0.57 | 55 |             |                    |
|                    | SDLS < 1 " | 0.32     | 0.30 | 0.51 | 55 |             |                    |
|                    | SDLN < 1 " | 0.32     | 0.30 | 0.51 | 55 |             |                    |
| 3/4" IG Low E3 Arg |            | 0.28     | 0.22 | 0.51 | 59 | NC, SC, S   | 1                  |
|                    | SDLS < 1 " | 0.28     | 0.20 | 0.46 | 59 | NC, SC, S   | 1                  |
|                    | SDLN < 1 " | 0.28     | 0.20 | 0.46 | 59 | NC, SC, S   | 1                  |
| 3/4" IG Low E1 Arg |            | 0.29     | 0.55 | 0.63 | 58 | N           | 1, 2, 3            |
|                    | SDLS < 1 " | 0.29     | 0.49 | 0.56 | 58 | N           | 1, 2               |
|                    | SDLN < 1 " | 0.29     | 0.49 | 0.56 | 58 | N           | 1, 2               |

### THERMAL PERFORMANCE

#### WOOD AWNING NARROW FRAME

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.28     | 0.27 | 0.46 | 58 | NC           | 1                  |
|                    | SDLS < 1 " | 0.28     | 0.25 | 0.42 | 58 | NC, SC, S    | 1                  |
|                    | SDLN < 1 " | 0.28     | 0.25 | 0.42 | 58 | NC, SC, S    | 1                  |
| 3/4" IG Low E2 Air |            | 0.31     | 0.27 | 0.46 | 54 |              |                    |
|                    | SDLS < 1 " | 0.31     | 0.25 | 0.42 | 54 | S            |                    |
|                    | SDLN < 1 " | 0.31     | 0.25 | 0.42 | 54 | S            |                    |
| 3/4" IG Low E3 Arg |            | 0.27     | 0.18 | 0.42 | 59 | N, NC, SC, S | 1                  |
|                    | SDLS < 1 " | 0.27     | 0.16 | 0.38 | 59 | N, NC, SC, S | 1                  |
|                    | SDLN < 1 " | 0.27     | 0.16 | 0.38 | 59 | N, NC, SC, S | 1                  |
| 3/4" IG Low E1 Arg |            | 0.28     | 0.45 | 0.51 | 58 | N            | 1, 2               |
|                    | SDLS < 1 " | 0.28     | 0.41 | 0.46 | 58 | N            | 1, 2               |
|                    | SDLN < 1 " | 0.28     | 0.41 | 0.46 | 58 | N            | 1, 2               |

#### AWNING NARROW FRAME

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|-------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.30     | 0.29 | 0.49 | 57 | NC          |                    |
|                    | SDLS < 1 " | 0.30     | 0.26 | 0.44 | 57 | NC          |                    |
|                    | SDLN < 1 " | 0.30     | 0.26 | 0.44 | 57 | NC          |                    |
| 3/4" IG Low E2 Air |            | 0.33     | 0.29 | 0.49 | 53 |             |                    |
|                    | SDLS < 1 " | 0.33     | 0.27 | 0.44 | 53 |             |                    |
|                    | SDLN < 1 " | 0.33     | 0.27 | 0.44 | 53 |             |                    |
| 3/4" IG Low E3 Arg |            | 0.30     | 0.19 | 0.44 | 57 | NC, SC, S   |                    |
|                    | SDLS < 1 " | 0.30     | 0.18 | 0.40 | 57 | NC, SC, S   |                    |
|                    | SDLN < 1 " | 0.30     | 0.18 | 0.40 | 57 | NC, SC, S   |                    |
| 3/4" IG Low E1 Arg |            | 0.31     | 0.48 | 0.54 | 57 |             | 1, 2               |
|                    | SDLS < 1 " | 0.31     | 0.43 | 0.49 | 57 |             | 1                  |
|                    | SDLN < 1 " | 0.31     | 0.43 | 0.49 | 57 |             | 1                  |

#### WOOD CASEMENT NARROW FRAME PICTURE

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.27     | 0.32 | 0.56 | 59 | N, NC        | 1                  |
|                    | SDLS < 1 " | 0.27     | 0.29 | 0.50 | 59 | N, NC        | 1                  |
|                    | SDLN < 1 " | 0.27     | 0.29 | 0.50 | 59 | N, NC        | 1                  |
| 3/4" IG Low E2 Air |            | 0.30     | 0.33 | 0.56 | 55 | NC           |                    |
|                    | SDLS < 1 " | 0.30     | 0.29 | 0.50 | 55 | NC           |                    |
|                    | SDLN < 1 " | 0.30     | 0.29 | 0.50 | 55 | NC           |                    |
| 3/4" IG Low E3 Arg |            | 0.26     | 0.21 | 0.50 | 59 | N, NC, SC, S | 1                  |
|                    | SDLS < 1 " | 0.26     | 0.19 | 0.45 | 59 | N, NC, SC, S | 1                  |
|                    | SDLN < 1 " | 0.26     | 0.19 | 0.45 | 59 | N, NC, SC, S | 1                  |
| 3/4" IG Low E1 Arg |            | 0.28     | 0.54 | 0.62 | 59 | N            | 1, 2, 3            |
|                    | SDLS < 1 " | 0.28     | 0.48 | 0.55 | 59 | N            | 1, 2               |
|                    | SDLN < 1 " | 0.28     | 0.48 | 0.55 | 59 | N            | 1, 2               |

Thermal performance information is provided for common glazing and product options and related National Fenestration Rating Council (NFRC) values, and is current as of 11/12/2019. Information regarding additional glazing and product options and configurations is available via the online tool at [marvin.com/support/energy-data](http://marvin.com/support/energy-data). Information regarding the NFRC rating system is available at [nfr.org/WindowRatings](http://nfr.org/WindowRatings).

### THERMAL PERFORMANCE

#### WOOD CASEMENT NARROW FRAME ROUND TOP

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|-------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.28     | 0.28 | 0.48 | 59 | NC          | 1                  |
|                    | SDLS < 1 " | 0.28     | 0.26 | 0.43 | 59 | NC          | 1                  |
|                    | SDLN < 1 " | 0.28     | 0.26 | 0.43 | 59 | NC          | 1                  |
| 3/4" IG Low E2 Air |            | 0.31     | 0.28 | 0.48 | 56 |             |                    |
|                    | SDLS < 1 " | 0.31     | 0.26 | 0.43 | 56 |             |                    |
|                    | SDLN < 1 " | 0.31     | 0.26 | 0.43 | 56 |             |                    |
| 3/4" IG Low E3 Arg |            | 0.28     | 0.19 | 0.43 | 60 | NC, SC, S   |                    |
|                    | SDLS < 1 " | 0.28     | 0.17 | 0.39 | 60 | NC, SC, S   |                    |
|                    | SDLN < 1 " | 0.28     | 0.17 | 0.39 | 60 | NC, SC, S   |                    |
| 3/4" IG Low E1 Arg |            | 0.29     | 0.46 | 0.53 | 59 | N           | 1, 2               |
|                    | SDLS < 1 " | 0.29     | 0.42 | 0.48 | 59 | N           | 1                  |
|                    | SDLN < 1 " | 0.29     | 0.42 | 0.48 | 59 | N           | 1                  |

#### CASEMENT NARROW FRAME ROUND TOP

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|-------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.30     | 0.29 | 0.49 | 57 | NC          |                    |
|                    | SDLS < 1 " | 0.30     | 0.27 | 0.44 | 57 | NC          |                    |
|                    | SDLN < 1 " | 0.30     | 0.27 | 0.44 | 57 | NC          |                    |
| 3/4" IG Low E2 Air |            | 0.33     | 0.29 | 0.49 | 54 |             |                    |
|                    | SDLS < 1 " | 0.33     | 0.27 | 0.44 | 54 |             |                    |
|                    | SDLN < 1 " | 0.33     | 0.27 | 0.44 | 54 |             |                    |
| 3/4" IG Low E3 Arg |            | 0.30     | 0.19 | 0.44 | 58 | NC, SC, S   |                    |
|                    | SDLS < 1 " | 0.30     | 0.18 | 0.40 | 58 | NC, SC, S   |                    |
|                    | SDLN < 1 " | 0.30     | 0.18 | 0.40 | 58 | NC, SC, S   |                    |
| 3/4" IG Low E1 Arg |            | 0.31     | 0.48 | 0.54 | 57 |             | 1, 2               |
|                    | SDLS < 1 " | 0.31     | 0.43 | 0.49 | 57 |             | 1                  |
|                    | SDLN < 1 " | 0.31     | 0.43 | 0.49 | 57 |             | 1                  |

#### WOOD CASEMENT ROUND TOP

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg       |            | 0.28     | 0.28 | 0.48 | 59 | NC           | 1                  |
|                          | SDLS < 1 " | 0.28     | 0.26 | 0.43 | 59 | NC           | 1                  |
|                          | SDLN < 1 " | 0.28     | 0.26 | 0.43 | 59 | NC           | 1                  |
| 3/4" IG Low E2 Air       |            | 0.31     | 0.28 | 0.48 | 55 |              |                    |
|                          | SDLS < 1 " | 0.31     | 0.26 | 0.43 | 55 |              |                    |
|                          | SDLN < 1 " | 0.31     | 0.26 | 0.43 | 55 |              |                    |
| 3/4" IG Low E3 Arg       |            | 0.28     | 0.19 | 0.43 | 59 | NC, SC, S    | 1                  |
|                          | SDLS < 1 " | 0.28     | 0.17 | 0.39 | 59 | NC, SC, S    |                    |
|                          | SDLN < 1 " | 0.28     | 0.17 | 0.39 | 59 | NC, SC, S    |                    |
| 3/4" IG Low E1 Arg       |            | 0.29     | 0.46 | 0.53 | 58 | N            | 1, 2               |
|                          | SDLS < 1 " | 0.29     | 0.42 | 0.48 | 58 | N            | 1                  |
|                          | SDLN < 1 " | 0.29     | 0.42 | 0.48 | 58 | N            | 1                  |
| 1" Tripane Low E2/E1 Arg |            | 0.23     | 0.25 | 0.42 | 64 | N, NC, SC, S | 1, 2               |
|                          | SDLN < 1 " | 0.23     | 0.23 | 0.38 | 64 | N, NC, SC, S | 1, 2               |

### THERMAL PERFORMANCE

#### CASEMENT ROUND TOP

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg       |            | 0.30     | 0.29 | 0.49 | 57 | NC           |                    |
|                          | SDLS < 1 " | 0.30     | 0.26 | 0.44 | 57 | NC           |                    |
| 3/4" IG Low E2 Air       |            | 0.33     | 0.29 | 0.49 | 54 |              |                    |
|                          | SDLS < 1 " | 0.33     | 0.26 | 0.44 | 54 |              |                    |
| 3/4" IG Low E3 Arg       |            | 0.29     | 0.19 | 0.44 | 58 | NC, SC, S    |                    |
|                          | SDLS < 1 " | 0.29     | 0.18 | 0.40 | 58 | NC, SC, S    |                    |
| 3/4" IG Low E1 Arg       |            | 0.30     | 0.47 | 0.54 | 57 | N            | 1, 2               |
|                          | SDLS < 1 " | 0.30     | 0.43 | 0.49 | 57 | N            | 1                  |
| 1" Tripane Low E2/E1 Arg |            | 0.25     | 0.26 | 0.43 | 61 | N, NC        | 1, 2               |
|                          | SDLN < 1 " | 0.25     | 0.24 | 0.39 | 61 | N, NC, SC, S | 1, 2               |

#### CASEMENT PICTURE ROUND TOP

| GLASS DESCRIPTION          | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|----------------------------|------------|----------|------|------|----|-------------|--------------------|
| 7/8" IG Low E2 Arg         |            | 0.29     | 0.32 | 0.55 | 60 | NC          |                    |
|                            | SDLS < 1 " | 0.29     | 0.29 | 0.49 | 60 | NC          |                    |
| 7/8" IG Low E2 Air         |            | 0.32     | 0.32 | 0.55 | 56 |             |                    |
|                            | SDLS < 1 " | 0.32     | 0.29 | 0.49 | 56 |             |                    |
| 7/8" IG Low E3 Arg         |            | 0.28     | 0.21 | 0.49 | 60 | NC, SC, S   | 1                  |
|                            | SDLS < 1 " | 0.28     | 0.19 | 0.44 | 60 | NC, SC, S   |                    |
| 7/8" IG Low E1 Arg         |            | 0.30     | 0.53 | 0.60 | 60 | N           | 1, 2               |
|                            | SDLS < 1 " | 0.30     | 0.47 | 0.54 | 60 | N           | 1, 2               |
| 7/8" Tripane Low E2/E1 Arg |            | 0.25     | 0.29 | 0.48 | 64 | N, NC       | 1, 2               |
|                            | SDLN < 1 " | 0.25     | 0.26 | 0.43 | 64 | N, NC       | 1, 2               |

### THERMAL PERFORMANCE

#### DIRECT GLAZE ROUND TOP

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 11/16" IG Low E2 Arg     |            | 0.28     | 0.37 | 0.64 | 55 | N, NC        | 1                  |
|                          | SDLS < 1 " | 0.28     | 0.33 | 0.57 | 55 | N, NC        | 1                  |
| 11/16" IG Low E2 Air     |            | 0.32     | 0.37 | 0.64 | 52 |              |                    |
|                          | SDLS < 1 " | 0.32     | 0.34 | 0.57 | 52 |              |                    |
| 11/16" IG Low E3 Arg     |            | 0.27     | 0.24 | 0.57 | 56 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.22 | 0.51 | 56 | N, NC, SC, S | 1                  |
| 11/16" IG Low E1 Arg     |            | 0.29     | 0.61 | 0.70 | 55 | N            | 1, 2, 3            |
|                          | SDLS < 1 " | 0.29     | 0.55 | 0.63 | 55 | N            | 1, 2, 3            |
| 13/16" IG Low E2 Arg     |            | 0.28     | 0.36 | 0.63 | 55 | N, NC        | 1                  |
|                          | SDLS < 1 " | 0.28     | 0.33 | 0.56 | 55 | N, NC        | 1                  |
| 13/16" IG Low E2 Air     |            | 0.32     | 0.37 | 0.63 | 52 |              |                    |
|                          | SDLS < 1 " | 0.32     | 0.33 | 0.56 | 52 |              |                    |
| 13/16" IG Low E3 Arg     |            | 0.27     | 0.24 | 0.56 | 56 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.22 | 0.51 | 56 | N, NC, SC, S | 1                  |
| 13/16" IG Low E1 Arg     |            | 0.29     | 0.58 | 0.69 | 55 | N            | 1, 2, 3            |
|                          | SDLS < 1 " | 0.29     | 0.53 | 0.62 | 55 | N            | 1, 2, 3            |
| 1" Tripane Low E2/E1 Arg |            | 0.21     | 0.33 | 0.56 | 62 | N, NC        | 1, 2, 3            |
|                          | SDLN < 1 " | 0.21     | 0.30 | 0.50 | 62 | N, NC        | 1, 2, 3            |

Thermal performance information is provided for common glazing and product options and related National Fenestration Rating Council (NFRC) values, and is current as of 11/12/2019. Information regarding additional glazing and product options and configurations is available via the online tool at [marvin.com/support/energy-data](http://marvin.com/support/energy-data). Information regarding the NFRC rating system is available at [nfr.org/WindowRatings](http://nfr.org/WindowRatings).

### THERMAL PERFORMANCE

#### GLIDER

| GLASS DESCRIPTION         | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|---------------------------|------------|----------|------|------|----|-------------|--------------------|
| 11/16" IG Low E2 Arg      |            | 0.29     | 0.31 | 0.52 | 57 | NC          |                    |
|                           | SDLS < 1 " | 0.29     | 0.27 | 0.46 | 57 | NC          |                    |
| 11/16" IG Low E2 Air      |            | 0.33     | 0.31 | 0.52 | 54 |             |                    |
|                           | SDLS < 1 " | 0.33     | 0.28 | 0.46 | 54 |             |                    |
| 11/16" IG Low E3 Arg      |            | 0.29     | 0.20 | 0.47 | 57 | NC, SC, S   |                    |
|                           | SDLS < 1 " | 0.29     | 0.18 | 0.42 | 57 | NC, SC, S   |                    |
| 11/16" IG Low E1 Arg      |            | 0.30     | 0.50 | 0.58 | 57 | N           | 1, 2               |
|                           | SDLS < 1 " | 0.30     | 0.45 | 0.51 | 57 | N           | 1                  |
| 11/16" IG Low E2 Arg Comb |            | 0.23     | 0.30 | 0.48 | 65 | N, NC       | 1, 2               |

#### GLIDER PICTURE

| GLASS DESCRIPTION    | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|----------------------|------------|----------|------|------|----|--------------|--------------------|
| 11/16" IG Low E2 Arg |            | 0.27     | 0.32 | 0.55 | 59 | N, NC        | 1                  |
|                      | SDLS < 1 " | 0.27     | 0.29 | 0.49 | 59 | N, NC        | 1                  |
| 11/16" IG Low E2 Air |            | 0.31     | 0.32 | 0.55 | 56 |              |                    |
|                      | SDLS < 1 " | 0.31     | 0.29 | 0.49 | 56 |              |                    |
| 11/16" IG Low E3 Arg |            | 0.27     | 0.21 | 0.49 | 60 | N, NC, SC, S | 1                  |
|                      | SDLS < 1 " | 0.27     | 0.19 | 0.44 | 60 | N, NC, SC, S | 1                  |
| 11/16" IG Low E1 Arg |            | 0.28     | 0.53 | 0.60 | 59 | N            | 1, 2, 3            |
|                      | SDLS < 1 " | 0.28     | 0.47 | 0.54 | 59 | N            | 1, 2               |

### THERMAL PERFORMANCE

#### WOOD TILT TURN

| GLASS DESCRIPTION          | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|----------------------------|------------|----------|------|------|----|--------------|--------------------|
| 7/8" IG Low E2 Arg         |            | 0.28     | 0.28 | 0.48 | 62 | NC           | 1                  |
|                            | SDLS < 1 " | 0.28     | 0.25 | 0.42 | 62 | NC, SC, S    | 1                  |
| 7/8" IG Low E2 Air         |            | 0.31     | 0.28 | 0.48 | 58 |              |                    |
|                            | SDLS < 1 " | 0.31     | 0.25 | 0.42 | 58 | S            |                    |
| 7/8" IG Low E3 Arg         |            | 0.27     | 0.18 | 0.43 | 62 | N, NC, SC, S | 1                  |
|                            | SDLS < 1 " | 0.27     | 0.17 | 0.38 | 62 | N, NC, SC, S | 1                  |
| 7/8" IG Low E1 Arg         |            | 0.28     | 0.46 | 0.53 | 61 | N            | 1, 2               |
|                            | SDLS < 1 " | 0.28     | 0.41 | 0.47 | 61 | N            | 1, 2               |
| 7/8" Tripane Low E2/E1 Arg |            | 0.23     | 0.23 | 0.37 | 68 | N, NC, SC, S | 1, 2               |
|                            | SDLN < 1 " | 0.23     | 0.25 | 0.42 | 68 | N, NC, SC, S | 1, 2               |

#### WOOD TILT TURN 4 9/16

| GLASS DESCRIPTION          | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|----------------------------|------------|----------|------|------|----|--------------|--------------------|
| 7/8" IG Low E2 Arg         |            | 0.28     | 0.27 | 0.46 | 62 | NC           | 1                  |
|                            | SDLS < 1 " | 0.28     | 0.24 | 0.41 | 62 | NC, SC, S    | 1                  |
| 7/8" IG Low E2 Air         |            | 0.31     | 0.27 | 0.46 | 58 |              |                    |
|                            | SDLS < 1 " | 0.31     | 0.24 | 0.41 | 58 | S            |                    |
| 7/8" IG Low E3 Arg         |            | 0.27     | 0.18 | 0.42 | 62 | N, NC, SC, S | 1                  |
|                            | SDLS < 1 " | 0.27     | 0.16 | 0.37 | 62 | N, NC, SC, S | 1                  |
| 7/8" IG Low E1 Arg         |            | 0.28     | 0.44 | 0.51 | 61 | N            | 1, 2               |
|                            | SDLS < 1 " | 0.28     | 0.39 | 0.45 | 61 | N, NC        | 1                  |
| 7/8" Tripane Low E2/E1 Arg |            | 0.23     | 0.22 | 0.36 | 68 | N, NC, SC, S | 1, 2               |
|                            | SDLN < 1 " | 0.23     | 0.24 | 0.41 | 68 | N, NC, SC, S | 1, 2               |

Thermal performance information is provided for common glazing and product options and related National Fenestration Rating Council (NFRC) values, and is current as of 11/12/2019. Information regarding additional glazing and product options and configurations is available via the online tool at [marvin.com/support/energy-data](http://marvin.com/support/energy-data). Information regarding the NFRC rating system is available at [nfr.org/WindowRatings](http://nfr.org/WindowRatings).

### THERMAL PERFORMANCE

#### TILT TURN

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|-------------|--------------------|
| 7/8" IG Low E2 Arg |            | 0.31     | 0.29 | 0.49 | 58 |             |                    |
|                    | SDLS < 1 " | 0.31     | 0.26 | 0.43 | 58 |             |                    |
| 7/8" IG Low E2 Air |            | 0.34     | 0.29 | 0.49 | 55 |             |                    |
|                    | SDLS < 1 " | 0.34     | 0.26 | 0.43 | 55 |             |                    |
| 7/8" IG Low E3 Arg |            | 0.30     | 0.19 | 0.44 | 58 | NC, SC, S   |                    |
|                    | SDLS < 1 " | 0.30     | 0.17 | 0.39 | 58 | NC, SC, S   |                    |
| 7/8" IG Low E1 Arg |            | 0.32     | 0.48 | 0.54 | 58 |             | 1                  |
|                    | SDLS < 1 " | 0.32     | 0.42 | 0.48 | 58 |             |                    |

#### TILT TURN 4 9/16

| GLASS DESCRIPTION          | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|----------------------------|------------|----------|------|------|----|--------------|--------------------|
| 7/8" IG Low E2 Arg         |            | 0.32     | 0.27 | 0.47 | 58 |              |                    |
|                            | SDLS < 1 " | 0.32     | 0.24 | 0.41 | 58 | S            |                    |
| 7/8" IG Low E2 Air         |            | 0.34     | 0.28 | 0.47 | 55 |              |                    |
|                            | SDLS < 1 " | 0.34     | 0.25 | 0.41 | 55 | S            |                    |
| 7/8" IG Low E3 Arg         |            | 0.31     | 0.18 | 0.42 | 58 | S            |                    |
|                            | SDLS < 1 " | 0.31     | 0.16 | 0.37 | 58 | S            |                    |
| 7/8" IG Low E1 Arg         |            | 0.32     | 0.45 | 0.52 | 58 |              | 1                  |
|                            | SDLS < 1 " | 0.32     | 0.40 | 0.46 | 58 |              |                    |
| 7/8" Tripane Low E2/E1 Arg |            | 0.27     | 0.25 | 0.41 | 61 | N, NC, SC, S | 1                  |
|                            | SDLS < 1 " | 0.27     | 0.22 | 0.36 | 61 | N, NC, SC, S | 1                  |

Thermal performance information is provided for common glazing and product options and related National Fenestration Rating Council (NFRC) values, and is current as of 11/12/2019. Information regarding additional glazing and product options and configurations is available via the online tool at [marvin.com/support/energy-data](http://marvin.com/support/energy-data). Information regarding the NFRC rating system is available at [nfr.org/WindowRatings](http://nfr.org/WindowRatings).

### THERMAL PERFORMANCE

#### DOUBLE HUNG HOPPER

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg       |            | 0.31     | 0.30 | 0.51 | 54 |              |                    |
|                          | SDLS < 1 " | 0.31     | 0.27 | 0.45 | 54 |              |                    |
| 3/4" IG Low E2 Air       |            | 0.34     | 0.30 | 0.51 | 51 |              |                    |
|                          | SDLS < 1 " | 0.34     | 0.27 | 0.45 | 51 |              |                    |
| 3/4" IG Low E3 Arg       |            | 0.30     | 0.20 | 0.46 | 54 | NC, SC, S    |                    |
|                          | SDLS < 1 " | 0.30     | 0.18 | 0.41 | 54 | NC, SC, S    |                    |
| 3/4" IG Low E1 Arg       |            | 0.31     | 0.49 | 0.56 | 54 |              | 1, 2               |
|                          | SDLS < 1 " | 0.31     | 0.44 | 0.50 | 54 |              | 1                  |
| 1" Tripane Low E2/E1 Arg |            | 0.24     | 0.27 | 0.45 | 65 | N, NC        | 1, 2               |
|                          | SDLS < 1 " | 0.24     | 0.24 | 0.40 | 65 | N, NC, SC, S | 1, 2               |

#### WOOD DIRECT GLAZE POLYGON

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 11/16" IG Low E2 Arg     |            | 0.26     | 0.35 | 0.61 | 60 | N, NC        | 1                  |
|                          | SDLS < 1 " | 0.26     | 0.32 | 0.54 | 60 | N, NC        | 1                  |
| 11/16" IG Low E2 Air     |            | 0.30     | 0.35 | 0.61 | 56 | NC           |                    |
|                          | SDLS < 1 " | 0.30     | 0.32 | 0.54 | 56 | NC           |                    |
| 11/16" IG Low E3 Arg     |            | 0.25     | 0.23 | 0.54 | 61 | N, NC, SC, S | 1, 2               |
|                          | SDLS < 1 " | 0.25     | 0.21 | 0.49 | 61 | N, NC, SC, S | 1, 2               |
| 11/16" IG Low E1 Arg     |            | 0.26     | 0.58 | 0.67 | 60 | N            | 1, 2, 3            |
|                          | SDLS < 1 " | 0.26     | 0.52 | 0.60 | 60 | N            | 1, 2, 3            |
| 13/16" IG Low E2 Arg     |            | 0.26     | 0.34 | 0.59 | 60 | N, NC        | 1                  |
|                          | SDLS < 1 " | 0.26     | 0.31 | 0.53 | 60 | N, NC        | 1                  |
| 13/16" IG Low E2 Air     |            | 0.30     | 0.35 | 0.59 | 56 | NC           |                    |
|                          | SDLS < 1 " | 0.30     | 0.31 | 0.53 | 56 | NC           |                    |
| 13/16" IG Low E3 Arg     |            | 0.25     | 0.23 | 0.54 | 61 | N, NC, SC, S | 1, 2               |
|                          | SDLS < 1 " | 0.25     | 0.21 | 0.48 | 61 | N, NC, SC, S | 1, 2               |
| 13/16" IG Low E1 Arg     |            | 0.26     | 0.55 | 0.65 | 60 | N            | 1, 2, 3            |
|                          | SDLS < 1 " | 0.26     | 0.50 | 0.59 | 60 | N            | 1, 2, 3            |
| 1" Tripane Low E2/E1 Arg |            | 0.19     | 0.32 | 0.53 | 70 | N, NC        | 1, 2, 3            |
|                          | SDLS < 1 " | 0.19     | 0.29 | 0.48 | 70 | N, NC        | 1, 2, 3            |

### THERMAL PERFORMANCE

#### DIRECT GLAZE POLYGON

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 11/16" IG Low E2 Arg     |            | 0.27     | 0.36 | 0.62 | 58 | N, NC        | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.32 | 0.55 | 58 | N, NC        | 1                  |
| 11/16" IG Low E2 Air     |            | 0.31     | 0.36 | 0.62 | 54 |              |                    |
|                          | SDLS < 1 " | 0.31     | 0.33 | 0.55 | 54 |              |                    |
| 11/16" IG Low E3 Arg     |            | 0.26     | 0.24 | 0.55 | 59 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.26     | 0.22 | 0.50 | 59 | N, NC, SC, S | 1                  |
| 11/16" IG Low E1 Arg     |            | 0.28     | 0.59 | 0.68 | 58 | N            | 1, 2, 3            |
|                          | SDLS < 1 " | 0.28     | 0.53 | 0.61 | 58 | N            | 1, 2, 3            |
| 13/16" IG Low E2 Arg     |            | 0.27     | 0.35 | 0.61 | 58 | N, NC        | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.32 | 0.54 | 58 | N, NC        | 1                  |
| 13/16" IG Low E2 Air     |            | 0.31     | 0.35 | 0.61 | 54 |              |                    |
|                          | SDLS < 1 " | 0.31     | 0.32 | 0.54 | 54 |              |                    |
| 13/16" IG Low E3 Arg     |            | 0.26     | 0.24 | 0.54 | 59 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.26     | 0.22 | 0.49 | 59 | N, NC, SC, S | 1                  |
| 13/16" IG Low E1 Arg     |            | 0.28     | 0.57 | 0.67 | 58 | N            | 1, 2, 3            |
|                          | SDLS < 1 " | 0.28     | 0.51 | 0.60 | 58 | N            | 1, 2, 3            |
| 1" Tripane Low E2/E1 Arg |            | 0.19     | 0.32 | 0.54 | 68 | N, NC        | 1, 2, 3            |
|                          | SDLS < 1 " | 0.19     | 0.29 | 0.49 | 68 | N, NC        | 1, 2, 3            |

### THERMAL PERFORMANCE

#### WOOD INSWING FRENCH DOOR

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.30     | 0.24 | 0.40 | 62 | N, NC, SC, S |                    |
|                    | SDLS < 1 " | 0.30     | 0.20 | 0.34 | 62 | N, NC, SC, S |                    |
| 3/4" IG Low E2 Air |            | 0.32     | 0.24 | 0.40 | 58 |              |                    |
|                    | SDLS < 1 " | 0.32     | 0.21 | 0.34 | 58 |              |                    |
| 3/4" IG Low E3 Arg |            | 0.29     | 0.16 | 0.36 | 63 | N, NC, SC, S |                    |
|                    | SDLS < 1 " | 0.29     | 0.14 | 0.31 | 63 | N, NC, SC, S |                    |
| 3/4" IG Low E1 Arg |            | 0.30     | 0.39 | 0.44 | 62 | N, NC        | 1                  |
|                    | SDLS < 1 " | 0.30     | 0.33 | 0.37 | 62 | N, NC        |                    |

#### INSWING FRENCH DOOR

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.30     | 0.24 | 0.40 | 61 | N, NC, SC, S |                    |
|                    | SDLS < 1 " | 0.30     | 0.21 | 0.34 | 61 | N, NC, SC, S |                    |
| 3/4" IG Low E2 Air |            | 0.33     | 0.24 | 0.40 | 58 |              |                    |
|                    | SDLS < 1 " | 0.33     | 0.21 | 0.34 | 58 |              |                    |
| 3/4" IG Low E3 Arg |            | 0.30     | 0.16 | 0.36 | 62 | N, NC, SC, S |                    |
|                    | SDLS < 1 " | 0.30     | 0.14 | 0.31 | 62 | N, NC, SC, S |                    |
| 3/4" IG Low E1 Arg |            | 0.31     | 0.39 | 0.44 | 61 |              |                    |
|                    | SDLS < 1 " | 0.31     | 0.34 | 0.37 | 61 |              |                    |

Thermal performance information is provided for common glazing and product options and related National Fenestration Rating Council (NFRC) values, and is current as of 11/12/2019. Information regarding additional glazing and product options and configurations is available via the online tool at [marvin.com/support/energy-data](http://marvin.com/support/energy-data). Information regarding the NFRC rating system is available at [nfr.org/WindowRatings](http://nfr.org/WindowRatings).

### THERMAL PERFORMANCE

#### WOOD OUTSWING FRENCH DOOR

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.29     | 0.24 | 0.40 | 62 | N, NC, SC, S |                    |
|                    | SDLS < 1 " | 0.29     | 0.21 | 0.34 | 62 | N, NC, SC, S |                    |
|                    | SDLN < 1 " | 0.29     | 0.21 | 0.34 | 62 | N, NC, SC, S |                    |
| 3/4" IG Low E2 Air |            | 0.32     | 0.24 | 0.40 | 58 |              |                    |
|                    | SDLS < 1 " | 0.32     | 0.21 | 0.34 | 58 |              |                    |
|                    | SDLN < 1 " | 0.32     | 0.21 | 0.34 | 58 |              |                    |
| 3/4" IG Low E3 Arg |            | 0.29     | 0.16 | 0.36 | 63 | N, NC, SC, S |                    |
|                    | SDLS < 1 " | 0.29     | 0.14 | 0.31 | 63 | N, NC, SC, S |                    |
|                    | SDLN < 1 " | 0.29     | 0.14 | 0.31 | 63 | N, NC, SC, S |                    |
| 3/4" IG Low E1 Arg |            | 0.30     | 0.39 | 0.44 | 62 | N, NC        | 1                  |
|                    | SDLS < 1 " | 0.30     | 0.33 | 0.37 | 62 | N, NC        |                    |
|                    | SDLN < 1 " | 0.30     | 0.33 | 0.37 | 62 | N, NC        |                    |

#### OUTSWING FRENCH DOOR

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.30     | 0.24 | 0.40 | 61 | N, NC, SC, S |                    |
|                    | SDLS < 1 " | 0.30     | 0.21 | 0.34 | 61 | N, NC, SC, S |                    |
|                    | SDLN < 1 " | 0.30     | 0.21 | 0.34 | 61 | N, NC, SC, S |                    |
| 3/4" IG Low E2 Air |            | 0.32     | 0.24 | 0.40 | 58 |              |                    |
|                    | SDLS < 1 " | 0.32     | 0.21 | 0.34 | 58 |              |                    |
|                    | SDLN < 1 " | 0.32     | 0.21 | 0.34 | 58 |              |                    |
| 3/4" IG Low E3 Arg |            | 0.29     | 0.16 | 0.36 | 62 | N, NC, SC, S |                    |
|                    | SDLS < 1 " | 0.29     | 0.14 | 0.31 | 62 | N, NC, SC, S |                    |
|                    | SDLN < 1 " | 0.29     | 0.14 | 0.31 | 62 | N, NC, SC, S |                    |
| 3/4" IG Low E1 Arg |            | 0.30     | 0.39 | 0.44 | 61 | N, NC        | 1                  |
|                    | SDLS < 1 " | 0.30     | 0.34 | 0.37 | 61 | N, NC        |                    |
|                    | SDLN < 1 " | 0.30     | 0.34 | 0.37 | 61 | N, NC        |                    |

### THERMAL PERFORMANCE

#### WOOD INSWING FRENCH DOOR TRANSOM

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|-------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.29     | 0.27 | 0.46 | 62 | NC          |                    |
|                    | SDLS < 1 " | 0.29     | 0.24 | 0.41 | 62 | NC, SC, S   |                    |
|                    | SDLN < 1 " | 0.29     | 0.24 | 0.41 | 62 | NC, SC, S   |                    |
| 3/4" IG Low E2 Air |            | 0.32     | 0.27 | 0.46 | 58 |             |                    |
|                    | SDLS < 1 " | 0.32     | 0.24 | 0.41 | 58 | S           |                    |
|                    | SDLN < 1 " | 0.32     | 0.24 | 0.41 | 58 | S           |                    |
| 3/4" IG Low E3 Arg |            | 0.29     | 0.18 | 0.41 | 62 | NC, SC, S   |                    |
|                    | SDLS < 1 " | 0.29     | 0.16 | 0.36 | 62 | NC, SC, S   |                    |
|                    | SDLN < 1 " | 0.29     | 0.16 | 0.36 | 62 | NC, SC, S   |                    |
| 3/4" IG Low E1 Arg |            | 0.30     | 0.44 | 0.51 | 62 | N           | 1                  |
|                    | SDLS < 1 " | 0.30     | 0.39 | 0.45 | 62 | NC          | 1                  |
|                    | SDLN < 1 " | 0.30     | 0.39 | 0.45 | 62 | NC          | 1                  |

#### WOOD OUTSWING FRENCH DOOR TRANSOM

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|-------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.28     | 0.27 | 0.46 | 62 | NC          | 1                  |
|                    | SDLS < 1 " | 0.28     | 0.24 | 0.41 | 62 | NC, SC, S   | 1                  |
|                    | SDLN < 1 " | 0.28     | 0.24 | 0.41 | 62 | NC, SC, S   | 1                  |
| 3/4" IG Low E2 Air |            | 0.31     | 0.27 | 0.46 | 58 |             |                    |
|                    | SDLS < 1 " | 0.31     | 0.24 | 0.41 | 58 | S           |                    |
|                    | SDLN < 1 " | 0.31     | 0.24 | 0.41 | 58 | S           |                    |
| 3/4" IG Low E3 Arg |            | 0.28     | 0.18 | 0.41 | 62 | NC, SC, S   | 1                  |
|                    | SDLS < 1 " | 0.28     | 0.16 | 0.36 | 62 | NC, SC, S   | 1                  |
|                    | SDLN < 1 " | 0.28     | 0.16 | 0.36 | 62 | NC, SC, S   | 1                  |
| 3/4" IG Low E1 Arg |            | 0.29     | 0.44 | 0.51 | 61 | N           | 1, 2               |
|                    | SDLS < 1 " | 0.29     | 0.39 | 0.45 | 61 | N, NC       | 1                  |
|                    | SDLN < 1 " | 0.29     | 0.39 | 0.45 | 61 | N, NC       | 1                  |

#### INSWING FRENCH DOOR TRANSOM

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|-------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.30     | 0.27 | 0.46 | 61 | NC          |                    |
|                    | SDLS < 1 " | 0.30     | 0.24 | 0.41 | 61 | NC, SC, S   |                    |
|                    | SDLN < 1 " | 0.30     | 0.24 | 0.41 | 61 | NC, SC, S   |                    |
| 3/4" IG Low E2 Air |            | 0.33     | 0.27 | 0.46 | 58 |             |                    |
|                    | SDLS < 1 " | 0.33     | 0.24 | 0.41 | 58 | S           |                    |
|                    | SDLN < 1 " | 0.33     | 0.24 | 0.41 | 58 | S           |                    |
| 3/4" IG Low E3 Arg |            | 0.29     | 0.18 | 0.41 | 62 | NC, SC, S   |                    |
|                    | SDLS < 1 " | 0.29     | 0.16 | 0.36 | 62 | NC, SC, S   |                    |
|                    | SDLN < 1 " | 0.29     | 0.16 | 0.36 | 62 | NC, SC, S   |                    |
| 3/4" IG Low E1 Arg |            | 0.31     | 0.44 | 0.51 | 61 |             | 1                  |
|                    | SDLS < 1 " | 0.31     | 0.39 | 0.45 | 61 |             |                    |
|                    | SDLN < 1 " | 0.31     | 0.39 | 0.45 | 61 |             |                    |

Thermal performance information is provided for common glazing and product options and related National Fenestration Rating Council (NFRC) values, and is current as of 11/12/2019. Information regarding additional glazing and product options and configurations is available via the online tool at [marvin.com/support/energy-data](http://marvin.com/support/energy-data). Information regarding the NFRC rating system is available at [nfr.org/WindowRatings](http://nfr.org/WindowRatings).

### THERMAL PERFORMANCE

#### OUTSWING FRENCH DOOR TRANSOM

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|-------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.30     | 0.27 | 0.46 | 60 | NC          |                    |
|                    | SDLS < 1 " | 0.30     | 0.24 | 0.41 | 60 | NC, SC, S   |                    |
| 3/4" IG Low E2 Air |            | 0.33     | 0.27 | 0.46 | 57 |             |                    |
|                    | SDLS < 1 " | 0.33     | 0.24 | 0.41 | 57 | S           |                    |
| 3/4" IG Low E3 Arg |            | 0.30     | 0.18 | 0.41 | 61 | NC, SC, S   |                    |
|                    | SDLS < 1 " | 0.30     | 0.16 | 0.36 | 61 | NC, SC, S   |                    |
| 3/4" IG Low E1 Arg |            | 0.31     | 0.45 | 0.51 | 60 |             | 1                  |
|                    | SDLS < 1 " | 0.31     | 0.40 | 0.45 | 60 |             |                    |

#### WOOD OUTSWING FRENCH DOOR 2 1/4 INCH

| GLASS DESCRIPTION    | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|----------------------|------------|----------|------|------|----|--------------|--------------------|
| 15/16" IG Low E2 Arg |            | 0.28     | 0.21 | 0.35 | 60 | N, NC, SC, S | 1                  |
|                      | SDLS < 1 " | 0.28     | 0.18 | 0.29 | 60 | N, NC, SC, S | 1                  |
| 15/16" IG Low E2 Air |            | 0.30     | 0.21 | 0.35 | 57 | N, NC, SC, S |                    |
|                      | SDLS < 1 " | 0.30     | 0.18 | 0.29 | 57 | N, NC, SC, S |                    |
| 15/16" IG Low E3 Arg |            | 0.27     | 0.14 | 0.31 | 61 | N, NC, SC, S | 1                  |
|                      | SDLS < 1 " | 0.27     | 0.12 | 0.26 | 61 | N, NC, SC, S | 1                  |

#### WOOD OUTSWING FRENCH DOOR SIDELITE

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|-------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.30     | 0.22 | 0.37 | 62 |             |                    |
|                    | SDLS < 1 " | 0.30     | 0.20 | 0.33 | 62 |             |                    |
| 3/4" IG Low E2 Air |            | 0.32     | 0.22 | 0.37 | 58 |             |                    |
|                    | SDLS < 1 " | 0.32     | 0.20 | 0.33 | 58 |             |                    |
| 3/4" IG Low E3 Arg |            | 0.29     | 0.15 | 0.34 | 63 |             |                    |
|                    | SDLS < 1 " | 0.29     | 0.13 | 0.30 | 63 |             |                    |
| 3/4" IG Low E1 Arg |            | 0.30     | 0.36 | 0.41 | 61 |             |                    |
|                    | SDLS < 1 " | 0.30     | 0.32 | 0.36 | 61 |             |                    |

### THERMAL PERFORMANCE

#### WOOD INSWING FRENCH DOOR 2 1/4 INCH

| GLASS DESCRIPTION    | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|----------------------|------------|----------|------|------|----|--------------|--------------------|
| 15/16" IG Low E2 Arg |            | 0.28     | 0.21 | 0.35 | 60 | N, NC, SC, S | 1                  |
|                      | SDLS < 1 " | 0.28     | 0.18 | 0.29 | 60 | N, NC, SC, S | 1                  |
| 15/16" IG Low E2 Air |            | 0.30     | 0.21 | 0.35 | 57 | N, NC, SC, S |                    |
|                      | SDLS < 1 " | 0.30     | 0.18 | 0.29 | 57 | N, NC, SC, S |                    |
| 15/16" IG Low E3 Arg |            | 0.28     | 0.14 | 0.31 | 61 | N, NC, SC, S | 1                  |
|                      | SDLS < 1 " | 0.28     | 0.12 | 0.26 | 61 | N, NC, SC, S | 1                  |
| 15/16" IG Low E1 Arg |            | 0.28     | 0.33 | 0.38 | 60 | N, NC        | 1                  |
|                      | SDLS < 1 " | 0.28     | 0.28 | 0.32 | 60 | N, NC        | 1                  |
| 15/16" IG Low E1 Air |            | 0.30     | 0.33 | 0.38 | 56 | N, NC        |                    |
|                      | SDLS < 1 " | 0.30     | 0.28 | 0.32 | 56 | N, NC        |                    |

#### WOOD INSWING FRENCH DOOR SIDELITE

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|-------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.30     | 0.22 | 0.37 | 62 |             |                    |
|                    | SDLS < 1 " | 0.30     | 0.20 | 0.33 | 62 |             |                    |
| 3/4" IG Low E2 Air |            | 0.33     | 0.22 | 0.37 | 59 |             |                    |
|                    | SDLS < 1 " | 0.33     | 0.20 | 0.33 | 59 |             |                    |
| 3/4" IG Low E3 Arg |            | 0.30     | 0.15 | 0.33 | 63 |             |                    |
|                    | SDLS < 1 " | 0.30     | 0.13 | 0.30 | 63 |             |                    |
| 3/4" IG Low E1 Arg |            | 0.31     | 0.36 | 0.41 | 62 |             |                    |
|                    | SDLS < 1 " | 0.31     | 0.32 | 0.36 | 62 |             |                    |

Thermal performance information is provided for common glazing and product options and related National Fenestration Rating Council (NFRC) values, and is current as of 11/12/2019. Information regarding additional glazing and product options and configurations is available via the online tool at [marvin.com/support/energy-data](http://marvin.com/support/energy-data). Information regarding the NFRC rating system is available at [nfr.org/WindowRatings](http://nfr.org/WindowRatings).

### THERMAL PERFORMANCE

#### OUTSWING FRENCH DOOR

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.30     | 0.24 | 0.40 | 61 | N, NC, SC, S |                    |
|                    | SDLS < 1 " | 0.30     | 0.21 | 0.34 | 61 | N, NC, SC, S |                    |
|                    | SDLN < 1 " | 0.30     | 0.21 | 0.34 | 61 | N, NC, SC, S |                    |
| 3/4" IG Low E2 Air |            | 0.32     | 0.24 | 0.40 | 58 |              |                    |
|                    | SDLS < 1 " | 0.32     | 0.21 | 0.34 | 58 |              |                    |
|                    | SDLN < 1 " | 0.32     | 0.21 | 0.34 | 58 |              |                    |
| 3/4" IG Low E3 Arg |            | 0.29     | 0.16 | 0.36 | 62 | N, NC, SC, S |                    |
|                    | SDLS < 1 " | 0.29     | 0.14 | 0.31 | 62 | N, NC, SC, S |                    |
|                    | SDLN < 1 " | 0.29     | 0.14 | 0.31 | 62 | N, NC, SC, S |                    |
| 3/4" IG Low E1 Arg |            | 0.30     | 0.39 | 0.44 | 61 | N, NC        | 1                  |
|                    | SDLS < 1 " | 0.30     | 0.34 | 0.37 | 61 | N, NC        |                    |
|                    | SDLN < 1 " | 0.30     | 0.34 | 0.37 | 61 | N, NC        |                    |

#### OUTSWING FRENCH DOOR SIDELITE

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.30     | 0.22 | 0.37 | 61 | N, NC, SC, S |                    |
|                    | SDLS < 1 " | 0.30     | 0.20 | 0.33 | 61 | N, NC, SC, S |                    |
|                    | SDLN < 1 " | 0.30     | 0.20 | 0.33 | 61 | N, NC, SC, S |                    |
| 3/4" IG Low E2 Air |            | 0.33     | 0.23 | 0.37 | 58 |              |                    |
|                    | SDLS < 1 " | 0.33     | 0.20 | 0.33 | 58 |              |                    |
|                    | SDLN < 1 " | 0.33     | 0.20 | 0.33 | 58 |              |                    |
| 3/4" IG Low E3 Arg |            | 0.30     | 0.15 | 0.34 | 62 | N, NC, SC, S |                    |
|                    | SDLS < 1 " | 0.30     | 0.14 | 0.30 | 62 | N, NC, SC, S |                    |
|                    | SDLN < 1 " | 0.30     | 0.14 | 0.30 | 62 | N, NC, SC, S |                    |
| 3/4" IG Low E1 Arg |            | 0.31     | 0.36 | 0.41 | 60 |              |                    |
|                    | SDLS < 1 " | 0.31     | 0.33 | 0.36 | 60 |              |                    |
|                    | SDLN < 1 " | 0.31     | 0.33 | 0.36 | 60 |              |                    |

### THERMAL PERFORMANCE

#### INSWING FRENCH DOOR 2 1/4 INCH

| GLASS DESCRIPTION    | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|----------------------|------------|----------|------|------|----|--------------|--------------------|
| 15/16" IG Low E2 Arg |            | 0.29     | 0.21 | 0.35 | 59 | N, NC, SC, S |                    |
|                      | SDLS < 1 " | 0.29     | 0.18 | 0.29 | 59 | N, NC, SC, S |                    |
|                      | SDLN < 1 " | 0.29     | 0.18 | 0.29 | 59 | N, NC, SC, S |                    |
| 15/16" IG Low E2 Air |            | 0.31     | 0.21 | 0.35 | 56 |              |                    |
|                      | SDLS < 1 " | 0.31     | 0.18 | 0.29 | 56 |              |                    |
|                      | SDLN < 1 " | 0.31     | 0.18 | 0.29 | 56 |              |                    |
| 15/16" IG Low E3 Arg |            | 0.28     | 0.14 | 0.31 | 60 | N, NC, SC, S | 1                  |
|                      | SDLS < 1 " | 0.28     | 0.12 | 0.26 | 60 | N, NC, SC, S | 1                  |
|                      | SDLN < 1 " | 0.28     | 0.12 | 0.26 | 60 | N, NC, SC, S | 1                  |

#### INSWING FRENCH DOOR SIDELITE

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|-------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.31     | 0.22 | 0.37 | 62 |             |                    |
|                    | SDLS < 1 " | 0.31     | 0.20 | 0.33 | 62 |             |                    |
|                    | SDLN < 1 " | 0.31     | 0.20 | 0.33 | 62 |             |                    |
| 3/4" IG Low E2 Air |            | 0.34     | 0.22 | 0.37 | 58 |             |                    |
|                    | SDLS < 1 " | 0.34     | 0.20 | 0.33 | 58 |             |                    |
|                    | SDLN < 1 " | 0.34     | 0.20 | 0.33 | 58 |             |                    |
| 3/4" IG Low E3 Arg |            | 0.31     | 0.15 | 0.33 | 62 |             |                    |
|                    | SDLS < 1 " | 0.31     | 0.13 | 0.30 | 62 |             |                    |
|                    | SDLN < 1 " | 0.31     | 0.13 | 0.30 | 62 |             |                    |
| 3/4" IG Low E1 Arg |            | 0.32     | 0.36 | 0.41 | 61 |             |                    |
|                    | SDLS < 1 " | 0.32     | 0.32 | 0.36 | 61 |             |                    |
|                    | SDLN < 1 " | 0.32     | 0.32 | 0.36 | 61 |             |                    |

Thermal performance information is provided for common glazing and product options and related National Fenestration Rating Council (NFRC) values, and is current as of 11/12/2019. Information regarding additional glazing and product options and configurations is available via the online tool at [marvin.com/support/energy-data](http://marvin.com/support/energy-data). Information regarding the NFRC rating system is available at [nfr.org/WindowRatings](http://nfr.org/WindowRatings).

### THERMAL PERFORMANCE

#### WOOD SLIDING FRENCH DOOR LOW PROFILE SILL

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.29     | 0.27 | 0.45 | 59 | N, NC        |                    |
|                    | SDLS < 1 " | 0.29     | 0.23 | 0.39 | 59 | N, NC, SC, S |                    |
| 3/4" IG Low E2 Air |            | 0.32     | 0.27 | 0.45 | 55 |              |                    |
|                    | SDLS < 1 " | 0.32     | 0.23 | 0.39 | 55 |              |                    |
| 3/4" IG Low E3 Arg |            | 0.29     | 0.18 | 0.40 | 59 | N, NC, SC, S |                    |
|                    | SDLS < 1 " | 0.29     | 0.16 | 0.35 | 59 | N, NC, SC, S |                    |
| 3/4" IG Low E1 Arg |            | 0.30     | 0.44 | 0.50 | 58 |              | 1                  |
|                    | SDLS < 1 " | 0.30     | 0.38 | 0.43 | 58 | N, NC        |                    |
| 3/4" IG Low E3 Arg | SDLN < 1 " | 0.29     | 0.16 | 0.35 | 59 | N, NC, SC, S |                    |

#### WOOD SLIDING FRENCH DOOR LOW PROFILE SILL

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.29     | 0.27 | 0.45 | 59 | N, NC        |                    |
|                    | SDLS < 1 " | 0.29     | 0.23 | 0.39 | 59 | N, NC, SC, S |                    |
| 3/4" IG Low E2 Air |            | 0.32     | 0.27 | 0.45 | 55 |              |                    |
|                    | SDLS < 1 " | 0.32     | 0.23 | 0.39 | 55 |              |                    |
| 3/4" IG Low E3 Arg |            | 0.29     | 0.18 | 0.40 | 59 | N, NC, SC, S |                    |
|                    | SDLS < 1 " | 0.29     | 0.16 | 0.35 | 59 | N, NC, SC, S |                    |
| 3/4" IG Low E1 Arg |            | 0.30     | 0.44 | 0.50 | 58 |              | 1                  |
|                    | SDLS < 1 " | 0.30     | 0.38 | 0.43 | 58 | N, NC        |                    |
| 3/4" IG Low E3 Arg | SDLN < 1 " | 0.29     | 0.16 | 0.35 | 59 | N, NC, SC, S |                    |

### THERMAL PERFORMANCE

#### SLIDING FRENCH DOOR

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.30     | 0.27 | 0.45 | 57 | N, NC        |                    |
|                    | SDLS < 1 " | 0.30     | 0.23 | 0.39 | 57 | N, NC, SC, S |                    |
| 3/4" IG Low E2 Air |            | 0.33     | 0.27 | 0.45 | 54 |              |                    |
|                    | SDLS < 1 " | 0.33     | 0.24 | 0.39 | 54 |              |                    |
| 3/4" IG Low E3 Arg |            | 0.30     | 0.18 | 0.41 | 58 | N, NC, SC, S |                    |
|                    | SDLS < 1 " | 0.30     | 0.16 | 0.35 | 58 | N, NC, SC, S |                    |
| 3/4" IG Low E1 Arg |            | 0.31     | 0.44 | 0.50 | 57 |              | 1                  |
|                    | SDLS < 1 " | 0.31     | 0.38 | 0.43 | 57 |              |                    |

#### SLIDING FRENCH DOOR LOW PROFILE SILL

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.30     | 0.27 | 0.45 | 57 | N, NC        |                    |
|                    | SDLS < 1 " | 0.30     | 0.23 | 0.39 | 57 | N, NC, SC, S |                    |
| 3/4" IG Low E2 Air |            | 0.33     | 0.27 | 0.45 | 54 |              |                    |
|                    | SDLS < 1 " | 0.33     | 0.24 | 0.39 | 54 |              |                    |
| 3/4" IG Low E3 Arg |            | 0.30     | 0.18 | 0.41 | 58 | N, NC, SC, S |                    |
|                    | SDLS < 1 " | 0.30     | 0.16 | 0.35 | 58 | N, NC, SC, S |                    |
| 3/4" IG Low E1 Arg |            | 0.31     | 0.44 | 0.50 | 57 |              | 1                  |
|                    | SDLS < 1 " | 0.31     | 0.38 | 0.43 | 57 |              |                    |

Thermal performance information is provided for common glazing and product options and related National Fenestration Rating Council (NFRC) values, and is current as of 11/12/2019. Information regarding additional glazing and product options and configurations is available via the online tool at [marvin.com/support/energy-data](http://marvin.com/support/energy-data). Information regarding the NFRC rating system is available at [nfr.org/WindowRatings](http://nfr.org/WindowRatings).

**THERMAL PERFORMANCE**

**WOOD SLIDING FRENCH DOOR TRANSOM**

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|-------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.28     | 0.27 | 0.46 | 62 | NC          |                    |
|                    | SDLS < 1 " | 0.28     | 0.24 | 0.41 | 62 | NC, SC, S   |                    |
|                    | SDLN < 1 " | 0.28     | 0.24 | 0.41 | 62 | NC, SC, S   |                    |
| 3/4" IG Low E2 Air |            | 0.31     | 0.27 | 0.46 | 58 |             |                    |
|                    | SDLS < 1 " | 0.31     | 0.24 | 0.41 | 58 | S           |                    |
|                    | SDLN < 1 " | 0.31     | 0.24 | 0.41 | 58 | S           |                    |
| 3/4" IG Low E3 Arg |            | 0.28     | 0.18 | 0.41 | 63 | NC, SC, S   |                    |
|                    | SDLS < 1 " | 0.28     | 0.16 | 0.36 | 63 | NC, SC, S   |                    |
|                    | SDLN < 1 " | 0.28     | 0.16 | 0.36 | 63 | NC, SC, S   |                    |
| 3/4" IG Low E1 Arg |            | 0.29     | 0.44 | 0.51 | 62 | N           |                    |
|                    | SDLS < 1 " | 0.29     | 0.39 | 0.45 | 62 | N, NC       |                    |
|                    | SDLN < 1 " | 0.29     | 0.39 | 0.45 | 62 | N, NC       |                    |

**SLIDING FRENCH DOOR TRANSOM**

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|-------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.30     | 0.27 | 0.46 | 61 |             |                    |
|                    | SDLS < 1 " | 0.30     | 0.24 | 0.41 | 61 |             |                    |
|                    | SDLN < 1 " | 0.30     | 0.24 | 0.41 | 61 |             |                    |
| 3/4" IG Low E2 Air |            | 0.32     | 0.27 | 0.46 | 57 |             |                    |
|                    | SDLS < 1 " | 0.32     | 0.24 | 0.41 | 57 |             |                    |
|                    | SDLN < 1 " | 0.32     | 0.24 | 0.41 | 57 |             |                    |
| 3/4" IG Low E3 Arg |            | 0.29     | 0.18 | 0.41 | 62 |             |                    |
|                    | SDLS < 1 " | 0.29     | 0.16 | 0.36 | 62 |             |                    |
|                    | SDLN < 1 " | 0.29     | 0.16 | 0.36 | 62 |             |                    |
| 3/4" IG Low E1 Arg |            | 0.30     | 0.44 | 0.51 | 61 |             |                    |
|                    | SDLS < 1 " | 0.30     | 0.40 | 0.45 | 61 |             |                    |
|                    | SDLN < 1 " | 0.30     | 0.40 | 0.45 | 61 |             |                    |

**THERMAL PERFORMANCE**

**WOOD SLIDING PATIO DOOR**

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.28     | 0.32 | 0.54 | 59 | N, NC        | 1                  |
|                    | SDLS < 1 " | 0.28     | 0.28 | 0.47 | 59 | N, NC        | 1                  |
|                    | SDLN < 1 " | 0.28     | 0.28 | 0.47 | 59 | N, NC        | 1                  |
| 3/4" IG Low E2 Air |            | 0.32     | 0.32 | 0.54 | 56 |              |                    |
|                    | SDLS < 1 " | 0.32     | 0.28 | 0.47 | 56 |              |                    |
|                    | SDLN < 1 " | 0.32     | 0.28 | 0.47 | 56 |              |                    |
| 3/4" IG Low E3 Arg |            | 0.28     | 0.21 | 0.49 | 59 | N, NC, SC, S | 1                  |
|                    | SDLS < 1 " | 0.28     | 0.19 | 0.43 | 59 | N, NC, SC, S | 1                  |
|                    | SDLN < 1 " | 0.28     | 0.19 | 0.43 | 59 | N, NC, SC, S | 1                  |
| 3/4" IG Low E1 Arg |            | 0.29     | 0.52 | 0.60 | 58 |              | 1, 2, 3            |
|                    | SDLS < 1 " | 0.29     | 0.46 | 0.52 | 58 |              | 1, 2               |
|                    | SDLN < 1 " | 0.29     | 0.46 | 0.52 | 58 |              | 1, 2               |

**WOOD SLIDING PATIO DOOR LOW PROFILE SILL**

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.28     | 0.32 | 0.54 | 59 | N, NC        | 1                  |
|                    | SDLS < 1 " | 0.28     | 0.28 | 0.47 | 59 | N, NC        | 1                  |
|                    | SDLN < 1 " | 0.28     | 0.28 | 0.47 | 59 | N, NC        | 1                  |
| 3/4" IG Low E2 Air |            | 0.32     | 0.32 | 0.54 | 56 |              |                    |
|                    | SDLS < 1 " | 0.32     | 0.28 | 0.47 | 56 |              |                    |
|                    | SDLN < 1 " | 0.32     | 0.28 | 0.47 | 56 |              |                    |
| 3/4" IG Low E3 Arg |            | 0.28     | 0.21 | 0.49 | 59 | N, NC, SC, S | 1                  |
|                    | SDLS < 1 " | 0.28     | 0.19 | 0.43 | 59 | N, NC, SC, S | 1                  |
|                    | SDLN < 1 " | 0.28     | 0.19 | 0.43 | 59 | N, NC, SC, S | 1                  |
| 3/4" IG Low E1 Arg |            | 0.29     | 0.52 | 0.60 | 58 |              | 1, 2, 3            |
|                    | SDLS < 1 " | 0.29     | 0.46 | 0.52 | 58 |              | 1, 2               |
|                    | SDLN < 1 " | 0.29     | 0.46 | 0.52 | 58 |              | 1, 2               |

Thermal performance information is provided for common glazing and product options and related National Fenestration Rating Council (NFRC) values, and is current as of 11/12/2019. Information regarding additional glazing and product options and configurations is available via the online tool at [marvin.com/support/energy-data](http://marvin.com/support/energy-data). Information regarding the NFRC rating system is available at [nfr.org/WindowRatings](http://nfr.org/WindowRatings).

### THERMAL PERFORMANCE

#### SLIDING PATIO DOOR

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.29     | 0.32 | 0.54 | 57 | N, NC        |                    |
|                    | SDLS < 1 " | 0.29     | 0.28 | 0.48 | 57 | N, NC        |                    |
| 3/4" IG Low E2 Air |            | 0.33     | 0.32 | 0.54 | 54 |              |                    |
|                    | SDLS < 1 " | 0.33     | 0.28 | 0.48 | 54 |              |                    |
| 3/4" IG Low E3 Arg |            | 0.29     | 0.21 | 0.49 | 58 | N, NC, SC, S |                    |
|                    | SDLS < 1 " | 0.29     | 0.19 | 0.43 | 58 | N, NC, SC, S |                    |
| 3/4" IG Low E1 Arg |            | 0.30     | 0.52 | 0.60 | 57 |              | 1, 2               |
|                    | SDLS < 1 " | 0.30     | 0.46 | 0.52 | 57 |              | 1, 2               |
| 3/4" IG Low E3 Arg | SDLN < 1 " | 0.29     | 0.19 | 0.43 | 58 | N, NC, SC, S |                    |

#### SLIDING PATIO DOOR LOW PROFILE SILL

| GLASS DESCRIPTION  | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E2 Arg |            | 0.29     | 0.32 | 0.54 | 57 | N, NC        |                    |
|                    | SDLS < 1 " | 0.29     | 0.28 | 0.48 | 57 | N, NC        |                    |
| 3/4" IG Low E2 Air |            | 0.33     | 0.32 | 0.54 | 54 |              |                    |
|                    | SDLS < 1 " | 0.33     | 0.28 | 0.48 | 54 |              |                    |
| 3/4" IG Low E3 Arg |            | 0.29     | 0.21 | 0.49 | 58 | N, NC, SC, S |                    |
|                    | SDLS < 1 " | 0.29     | 0.19 | 0.43 | 58 | N, NC, SC, S |                    |
| 3/4" IG Low E1 Arg |            | 0.30     | 0.52 | 0.60 | 57 |              | 1, 2               |
|                    | SDLS < 1 " | 0.30     | 0.46 | 0.52 | 57 |              | 1, 2               |
| 3/4" IG Low E3 Arg | SDLN < 1 " | 0.29     | 0.19 | 0.43 | 58 | N, NC, SC, S |                    |

### THERMAL PERFORMANCE

#### BI-FOLD DOOR

| GLASS DESCRIPTION    | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|----------------------|------------|----------|------|------|----|--------------|--------------------|
| 15/16" IG Low E3 Arg |            | 0.28     | 0.17 | 0.35 | 56 | N, NC, SC, S | 1                  |
|                      | SDLS < 1 " | 0.28     | 0.14 | 0.30 | 56 | N, NC, SC, S | 1                  |
| 15/16" IG Low E2 Arg |            | 0.28     | 0.22 | 0.40 | 56 | N, NC, SC, S | 1                  |
|                      | SDLS < 1 " | 0.28     | 0.19 | 0.34 | 56 | N, NC, SC, S | 1                  |
| 15/16" IG Low E2 Air |            | 0.31     | 0.23 | 0.40 | 53 |              |                    |
|                      | SDLS < 1 " | 0.31     | 0.20 | 0.34 | 53 |              |                    |
|                      | SDLN < 1 " | 0.31     | 0.20 | 0.34 | 53 |              |                    |

#### MULTI-SLIDE DOOR

| GLASS DESCRIPTION    | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|----------------------|------------|----------|------|------|----|--------------|--------------------|
| 15/16" IG Low E2 Arg |            | 0.28     | 0.28 | 0.48 | 55 | N, NC        | 1                  |
|                      | SDLS < 1 " | 0.28     | 0.24 | 0.41 | 55 | N, NC, SC, S | 1                  |
| 15/16" IG Low E2 Air |            | 0.31     | 0.28 | 0.48 | 52 |              |                    |
|                      | SDLS < 1 " | 0.31     | 0.25 | 0.41 | 52 |              |                    |
| 15/16" IG Low E3 Arg |            | 0.28     | 0.19 | 0.43 | 56 | N, NC, SC, S |                    |
|                      | SDLS < 1 " | 0.28     | 0.17 | 0.37 | 56 | N, NC, SC, S |                    |
|                      | SDLN < 1 " | 0.28     | 0.17 | 0.37 | 56 | N, NC, SC, S |                    |

Thermal performance information is provided for common glazing and product options and related National Fenestration Rating Council (NFRC) values, and is current as of 11/12/2019. Information regarding additional glazing and product options and configurations is available via the online tool at [marvin.com/support/energy-data](http://marvin.com/support/energy-data). Information regarding the NFRC rating system is available at [nfr.org/WindowRatings](http://nfr.org/WindowRatings).

**IZ3 / IZ4**



**ULTIMATE CASEMENT AND AWNING**

| IMPACT ZONE 3    |                   |           |           |
|------------------|-------------------|-----------|-----------|
| PRODUCT          | MAX SIZE          | DP        | OPERATION |
| UCA              | CN3697            | +65 / -65 | LH, RH    |
| UCA STAT/PICT    | CN60108**         | +65 / -65 | FIXED     |
| UCA STAT/PICT    | CN10860           | +65 / -65 | FIXED     |
| UCA STAT/PICT    | CN7278*           | +65 / -65 | FIXED     |
| UCA STAT/PICT    | CN7872            | +65 / -65 | FIXED     |
| UCA STAT/POLY    | 60" X 106 3/4"    | +65 / -65 | FIXED     |
| UCA STAT/POLY    | 72 1/2" X 77 1/2" | +65 / -65 | FIXED     |
| UCAPO            | CN3684            | +65 / -65 | LH/RH     |
| UCAPO STAT/PICT  | CN60108**         | +65 / -65 | FIXED     |
| UCAPO STAT/PICT  | CN10860           | +65 / -65 | FIXED     |
| UCAPO STAT/PICT  | CN7278*           | +65 / -65 | FIXED     |
| UCAPO STAT/PICT  | CN7872            | +65 / -65 | FIXED     |
| UCART            | CN3684            | +65 / -65 | LH/RH     |
| UCART STAT/PICT  | CN3684            | +65 / -65 | FIXED     |
| UCART STAT/PICT  | CN7278            | +65 / -65 | FIXED     |
| UAWN             | CN4854            | +65 / -65 | OPERABLE  |
| UAWNPO           | CN7236            | +65 / -65 | OPERABLE  |
| UWCA             | CN3697            | +65 / -65 | LH/RH     |
| UWCA STAT/PICT   | CN60108**         | +65 / -65 | FIXED     |
| UWCA STAT/PICT   | CN10860           | +65 / -65 | FIXED     |
| UWCA STAT/PICT   | CN7278*           | +65 / -65 | FIXED     |
| UWCA STAT/PICT   | CN7872            | +65 / -65 | FIXED     |
| UWCA STAT/POLY   | 60" X 107 3/16"   | +65 / -65 | FIXED     |
| UWCA STAT/POLY   | 72 1/2" X 77 1/2" | +65 / -65 | FIXED     |
| UWCART           | CN3684            | +65 / -65 | LH/RH     |
| UWCART STAT/PICT | CN3684            | +65 / -65 | FIXED     |
| UWCART STAT/PICT | CN3684            | +65 / -65 | FIXED     |
| UWAWN            | CN4854            | +65 / -65 | OPERABLE  |

**IMPACT ZONE 4**

| PRODUCT                  | MAX SIZE      | DP        | OPERATION |
|--------------------------|---------------|-----------|-----------|
| UCA F.S.                 | 36" X 91 1/2" | +70 / -85 | LH, RH    |
| UCA STAT 3/4" IG F.S.    | 36" X 91 1/2" | +70 / -85 | FIXED     |
| UCA STAT 3/4" IG F.S.    | 91 1/2" X 36" | +70 / -85 | FIXED     |
| UCA STAT PICT 1" IG F.S. | 60" X 108"    | +70 / -75 | FIXED     |
| UCA STAT PICT 1" IG F.S. | 108" X 60"    | +70 / -75 | FIXED     |
| UCA STAT PICT 1" IG F.S. | 72" X 71 1/2" | +70 / -75 | FIXED     |
| UCA STAT PICT 1" IG F.S. | 71 1/2" X 72" | +70 / -75 | FIXED     |
| UCA STAT/POLY            | 60" X 108"    | +70 / -75 | FIXED     |
| UCA STAT/POLY            | 72" X 71 1/2" | +70 / -75 | FIXED     |
| UCART IN-SASH F.S.       | 60" X 108"    | +70 / -75 | FIXED     |
| UCART IN-SASH F.S.       | 108" X 60"    | +70 / -75 | FIXED     |
| UAWN F.S.                | 48" X 47 1/2" | +70 / -85 | OPERABLE  |

**DIRECT GLAZE**

| IMPACT ZONE 3 |            |           |           |
|---------------|------------|-----------|-----------|
| PRODUCT       | MAX SIZE   | DP        | OPERATION |
| CDG F.S.      | 73" X 73"  | +55 / -65 | FIXED     |
| CDG F.S.      | 48" X 120" | +55 / -65 | FIXED     |
| CDG F.S.      | 120" X 48" | +55 / -65 | FIXED     |
| UWDGRECT F.S. | 73" X 73"  | +55 / -65 | FIXED     |

**IMPACT ZONE 4**

| PRODUCT  | MAX SIZE   | DP        | OPERATION |
|----------|------------|-----------|-----------|
| CDG F.S. | 60" X 120" | +70 / -75 | FIXED     |
| CDG F.S. | 120" X 60" | +70 / -75 | FIXED     |
| CDG F.S. | 36" X 96"  | +95 / -95 | FIXED     |
| CDG F.S. | 96" X 36"  | +95 / -95 | FIXED     |

**ULTIMATE DOUBLE HUNG G2**

| IMPACT ZONE 3 |                |           |           |
|---------------|----------------|-----------|-----------|
| PRODUCT       | MAX SIZE       | DP        | OPERATION |
| UDHG2         | CN4450         | +65 / -65 | DH, SH    |
| UDHPG2 F.S.   | 61 1/4" X 102" | +65 / -65 | FIXED     |
| UDHTRG2       | CN6820         | +65 / -65 | FIXED     |
| UDHRTG2       | CN4450         | +65 / -65 | DH, SH    |

**ULTIMATE DOUBLE HUNG**

| IMPACT ZONE 3 |                   |           |           |
|---------------|-------------------|-----------|-----------|
| PRODUCT       | MAX SIZE          | DP        | OPERATION |
| UWDH          | CN3234            | +50 / -65 | DH, SH    |
| UWDH          | CN4026            | +55 / -65 | DH, SH    |
| UWDHRT        | CN3234            | +50 / -65 | DH, SH    |
| UWDHTR        | 73 3/8" X 27 3/8" | +55 / -65 | FIXED     |
| UWDHP         | CN6878            | +55 / -65 | FIXED     |
| UWDHP         | CN60108           | +55 / -65 | DH, SH    |

**IMPACT ZONE 3 (MAGNUM)**

| PRODUCT | MAX SIZE | DP        | OPERATION |
|---------|----------|-----------|-----------|
| UDHM    | CN4848   | +50 / -65 | DH        |
| UDHM    | CN4256   | +50 / -65 | DH        |

**ULTIMATE SWINGING FRENCH DOOR**

| IMPACT ZONE 3 (OUTSWING) |          |           |            |
|--------------------------|----------|-----------|------------|
| PRODUCT                  | MAX SIZE | DP        | OPERATION  |
| UOFD                     | CN3080   | +55 / -65 | O, X       |
| UOFD                     | CN6080   | +55 / -65 | OX, XO, XX |
| UOFDSL                   | CN1680   | +55 / -65 | FIXED      |
| UOFDTR                   | CN6026   | +55 / -65 | FIXED      |
| UWOFD                    | CN3080   | +55 / -65 | O, X       |
| UWOFD                    | CN6080   | +55 / -65 | OX, XO, XX |
| UWOFDSL                  | CN1680   | +55 / -65 | FIXED      |
| UWOFDSLTR                | CN6026   | +55 / -65 | FIXED      |

**IMPACT ZONE 3 (INSWING)**

| PRODUCT    | MAX SIZE | DP        | OPERATION  |
|------------|----------|-----------|------------|
| UIFD       | CN3080   | +50 / -65 | O, X       |
| UIFD       | CN6080   | +50 / -65 | OX, XO, XX |
| UIFDSL     | CN1680   | +55 / -65 | FIXED      |
| UIFDTR     | CN6026   | +55 / -65 | FIXED      |
| UIWIFD     | CN3080   | +50 / -65 | O, X       |
| UIWIFD     | CN6080   | +50 / -65 | OX, XO, XX |
| UIWIFDSL   | CN1680   | +55 / -65 | FIXED      |
| UIWIFDSLTR | CN6026   | +55 / -65 | FIXED      |

**IMPACT ZONE 4 (OUTSWING)\*\*\***

| PRODUCT | MAX SIZE | DP        | OPERATION |
|---------|----------|-----------|-----------|
| UOFD    | CN3080   | +65 / -80 | O, X      |
| UOFD    | CN3068   | +65 / -80 | O, X      |
| UOFD    | CN6080   | +65 / -80 | XX        |
| UOFD    | CN6068   | +65 / -80 | XX        |

**ULTIMATE SLIDING FRENCH DOOR**

| IMPACT ZONE 3 |          |           |               |
|---------------|----------|-----------|---------------|
| PRODUCT       | MAX SIZE | DP        | OPERATION     |
| USFD          | CN8080   | +50 / -65 | OX, XO        |
| USFD          | CN12080  | +55 / -65 | OXO, OOX, XOO |
| USFD          | CN16080  | +50 / -55 | OXO           |
| USFDTR        | CN8026   | +55 / -65 | FIXED         |
| UWSFD         | CN8080   | +55 / -65 | OX, XO        |
| UWSFDTR       | CN8026   | +55 / -65 | FIXED         |

**2 1/4" ULTIMATE SWINGING FRENCH DOOR**

| IMPACT ZONE 3 (OUTSWING) |          |           |           |
|--------------------------|----------|-----------|-----------|
| PRODUCT                  | MAX SIZE | DP        | OPERATION |
| UOFD                     | CN3080   | +55 / -65 | O, X      |
| UOFD                     | CN6080   | +55 / -65 | XX        |
| UOFD                     | CN30100  | +55 / -65 | O, X      |
| UOFD                     | CN60100  | +55 / -65 | XX        |
| UOFD2.25AT               | CN3080   | +55 / -65 | O, X      |
| UOFD2.25AT               | CN6080   | +55 / -65 | XX        |
| UOFD2.25AT               | CN30100  | +55 / -65 | O, X      |
| UOFD2.25AT               | CN60100  | +55 / -65 | XX        |
| UWOFD2.25                | CN3080   | +55 / -65 | O, X      |
| UWOFD2.25                | CN6080   | +55 / -65 | XX        |
| UWOFD2.25                | CN30100  | +55 / -65 | O, X      |
| UWOFD2.25                | CN60100  | +55 / -65 | XX        |
| UWOFD2.25AT              | CN3080   | +55 / -65 | O, X      |
| UWOFD2.25AT              | CN6080   | +55 / -65 | XX        |
| UWOFD2.25AT              | CN30100  | +55 / -65 | O, X      |
| UWOFD2.25AT              | CN60100  | +55 / -65 | XX        |

**IMPACT ZONE 3 (INSWING)**

| PRODUCT      | MAX SIZE | DP        | OPERATION |
|--------------|----------|-----------|-----------|
| UIFD2.25     | CN3080   | +50 / -65 | O, X      |
| UIFD2.25     | CN6080   | +50 / -65 | XX        |
| UIFD2.25     | CN30100  | +50 / -65 | O, X      |
| UIFD2.25     | CN60100  | +50 / -65 | XX        |
| UIFD2.25AT   | CN3080   | +50 / -65 | O, X      |
| UIFD2.25AT   | CN6080   | +50 / -65 | XX        |
| UIFD2.25AT   | CN30100  | +50 / -65 | O, X      |
| UIFD2.25AT   | CN60100  | +50 / -65 | XX        |
| UIWIFD2.25   | CN3080   | +50 / -65 | O, X      |
| UIWIFD2.25   | CN6080   | +50 / -65 | XX        |
| UIWIFD2.25   | CN30100  | +50 / -65 | O, X      |
| UIWIFD2.25   | CN60100  | +50 / -65 | XX        |
| UIWIFD2.25AT | CN3080   | +50 / -65 | O, X      |
| UIWIFD2.25AT | CN6080   | +50 / -65 | XX        |
| UIWIFD2.25AT | CN30100  | +50 / -65 | O, X      |
| UIWIFD2.25AT | CN60100  | +50 / -65 | XX        |

**IMPACT ZONE 4 (OUTSWING)\*\*\***

| PRODUCT    | MAX SIZE | DP        | OPERATION |
|------------|----------|-----------|-----------|
| UOFD       | CN3080   | +65 / -70 | O, X      |
| UOFD       | CN6080   | +65 / -70 | XX        |
| UOFD       | CN30100  | +65 / -70 | O, X      |
| UOFD       | CN60100  | +65 / -70 | XX        |
| UOFD2.25AT | CN3080   | +65 / -70 | O, X      |
| UOFD2.25AT | CN6080   | +65 / -70 | XX        |
| UOFD2.25AT | CN30100  | +65 / -70 | O, X      |
| UOFD2.25AT | CN60100  | +65 / -70 | XX        |

**ULTIMATE MULTI-SLIDE DOOR**

| IMPACT ZONE 3                                |  |            |  |
|--|--|------------|--|
| PRODUCT                                      | MAX SIZE   | DP         |  |
| BI-PARTING                                   | CN HEIGHTS ABOVE 8-0 TO 10-0   | +50 / -55† |  |
| Stacked or Pocket with High Performance Sill | CN heights 8-0 and under<br>Up to 10 Panels and<br>Up to 4-0 Panel Width | +55 / -65† |  |
| UNI-DIRECTIONAL                              | CN HEIGHTS UP TO 10-0  | +55 / -65† |  |
| Stacked or Pocket with High Performance Sill | Up to 6 Panels and<br>Up to 4-0 Panel Width                              |            |  |

**ULTIMATE BI-FOLD DOOR**

| IMPACT ZONE 3                   |                                    |           |
|---------------------------------|------------------------------------|-----------|
| CERTIFICATION RATING: SP-PG50   |                                    |           |
| PRODUCT                         | MAX SIZE                           | DP        |
| Maximum panels within door unit | Six in any operating configuration | +50 / -50 |
| Maximum operating panel size    | CN3680 or CN30100                  | +50 / -50 |
| Maximum stationary panel size   | CN36100                            | +50 / -50 |

Details and Elevations not to scale.  
 F.S. refers to frame size  
 \* Certified width 72 3/4" for use with Marvin Doors  
 \*\* Certified height 107 1/2" (frame size)  
 \*\*\* Includes stamped and milled panels  
 † Talk to your Marvin Representative about available configurations  
 For further details and drawings visit the 'Tools and Documents' section at Marvin.com.



Since we opened as a family-owned and -operated lumber and cedar company in 1912, Marvin has designed products to help people live better. We remain committed to bringing beauty and simplicity into people's lives with windows and doors that stand the test of time.

**MARVIN.COM**

©2019 Marvin Lumber and Cedar Co., LLC. All rights reserved.  
®Registered trademark of Marvin Lumber and Cedar Co., LLC.

Part #19980961. December 2019.

Colors shown in printed materials are simulations and may not precisely duplicate product or finish colors. Contact your local Marvin dealer to view actual product and finish color samples.