

**Section 08 52 00**  
**Wood Ultimate Double Hung Collection**

**Part 1 General**

**1.1 Section Includes**

- A. **Wood Ultimate Double Hung**, Single Hung, Transom, Picture window complete with hardware, glazing, weather strip, insect screen, grilles-between-the-glass, **simulated divided lite**, authentic divided lite, jamb extension, combination storm/screen, interior shade, and standard or specified anchors, trim, and attachments
- B. Wood Ultimate Double Hung, Single Hung Bay or Bow complete with hardware, glazing, weather strip, insect screen, grilles-between-the-glass, simulated divided lite, authentic divided lite, jamb extension, combination storm/screen, head/seat board, and standard or specified anchors, trim attachments, and accessories
- C. Wood Round Top Ultimate Double Hung window complete with hardware, glazing, weather strip, insect screen, simulated divided lite, grilles-between-the-glass, authentic divided lite, jamb extension, combination storm/screen, and standard or specified anchors, trim, and attachments

**1.2 Related Sections**

- A. Section 01 33 23 – Submittal Procedures, Shop Drawings, Product Data and Samples
- B. Section 01 62 00 – Product Options
- C. Section 01 65 00 – Product Delivery
- D. Section 01 66 00 – Storage and Handling Requirements
- E. Section 01 71 00 – Examination and Preparation
- F. Section 01 73 00 - Execution
- G. Section 01 74 00 – Cleaning and Waste Management
- H. Section 01 76 00 – Protecting Installed Construction
- I. Section 06 22 00 – Millwork: Wood trim other than furnished by window manufacturer
- J. Section 07 92 00 – Joint Sealant: Sill sealant and perimeter caulking
- K. Section 09 90 00 – Painting and Coasting: Paint and stain other than factory-applied finish

### 1.3 References

- A. American Society for Testing Materials (ASTM):
  - 1. E283: Standard Test method for Rate of Air Leakage through Exterior Windows, Curtain Walls and Doors
  - 2. E330: Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls and Door by Uniform Static Air Pressure Difference
  - 3. E547: Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls and Doors by Cyclic Static Air Pressure Differential
  - 4. E2190: Specification for Sealed Insulated Glass Units
  - 5. C1036: Standard Specification for Flat Glass
  - 6. E2068: Standard Test Method for Determination of Operating Force of Sliding Windows and Doors
- B. American Architectural Manufacturer's Association/Window and Door Manufacturer's Association (AAMA/WDMA/CSA):
  - 1. AAMA/WDMA/CSA 101/I.S.2/A440-08, North American Fenestration, Standard/Specification for window, doors and skylights
  - 2. AAMA/WDMA/CSA 101/I.S.2/A440-11,NAFS 2011 – North American Fenestration, Standard/Specification for windows, doors and skylights
- C. WDMA I.S.4: Industry Standard for Water Repellant Preservative Treatment for Millwork
- D. Window and Door Manufacturer's Association (WDMA): 101/I.S.2 WDMA Hallmark Certification Program
- E. Sealed Insulating Glass Manufacturer's Association/Insulating Glass Certification Council (SIGMA/IGCC)
- F. American Architectural Manufacturer's Association (AAMA): 2605: Voluntary Specification for High Performance Organic Coatings on Architectural Extrusions and Panels
- G. National Fenestration rating Council (NFRC):
  - 1. 101: Procedure for Determining Fenestration Product thermal Properties
  - 2. 200: Procedure for Determining Solar Heat Grain Coefficients at Normal Incidence
- H. Window Covering Manufacturer's Association
  - 1. A100.1: Standard for safety of corded covering products

## 1.4 System Description

### A. Design and Performance Requirements:

Product	Air Tested to psf	Water Tested to psf	Structural Tested to psf	Certification Rating	Design Pressure (DP)	Overall Width		Overall Height	
						in	mm	in	mm
Wood Double Hung Window 3644	1.57	6	60	LC-PG40-H	40	41 3/8	(1051)	97	(2464)
Wood Double Hung Window 3644 High Performance	1.57	8.25	60	LC-PG40-H	40	41 3/8	(1051)	97	(2464)
Wood Ultimate Double Hung 4026	1.57	6	60	LC-PG40-H	40	45 3/8	(1153)	61	(1549)
Wood Ultimate Double Hung 4036	1.57	6	45	LC-PG40-H	40	45 3/8	(1153)	81	(2057)
Wood Double Hung Window 4036 High Performance	1.57	8.25	60	LC-PG40-H	40	45 3/8	(1153)	81	(2057)
Wood Ultimate Double Hung 2830 High Performance	1.57	7.5	75	LC-PG50-H	50	33 3/8	(848)	69	(1753)
Wood Ultimate Double Hung 3026 High Performance	1.57	7.5	75	LC-PG50-H	50	35 3/8	(899)	61	(1549)

Product	Air Tested to psf	Water Tested to psf	Structural Tested to psf	Certification Rating	Design Pressure (DP)	Overall Width		Overall Height	
						in	mm	in	mm
Wood Ultimate Double Hung Round Top 4036	1.57	4.5	45	LC--PG30-H	30	45 3/8	(1153)	81	(2057)
Wood Ultimate Double Hung Picture/Transom Round Top & Polygon	1.57	9	90	CW-PG60-FW	60	75	(1905)	90	(2286)

## **1.5 Submittals**

- A. Shop Drawings: Submit shop drawings under provision of Section 01 33 23
- B. Product Data: Submit catalog data under provision of Section 01 33 23
- C. Samples:
  - 1. Submit corner section under provision of section 01 33 23
  - 2. Include glazing system, quality of construction and specified finish
- D. Quality Control Submittals: Certificates: submit manufacturer's certification indicating compliance with specified performance and design requirement under provision of section 01 33 23

## **1.6 Quality Assurance**

- A. Requirements: consult local code for IBC [International Building Code] and IRC [International Residential Code] adoption year and pertinent revisions for information on:
  - 1. Egress, emergency escape and rescue requirements
  - 2. Basement window requirements
  - 3. Windows fall prevention and/or window opening control device requirements

## **1.7 Delivery**

- A. Comply with provisions of Section 01 65 00
- B. Deliver in original packaging and protect from weather

## **1.8 Storage and Handling**

- A. Prime and seal wood surfaces, including to be concealed by wall construction, if more than thirty (30) days will expire between delivery and installation
- B. Store window units in an upright position in a clean and dry storage area above ground to protect from weather under provision of Section 01 66 00

## **1.9 Warranty**

Complete and current warranty information is available at [marvin.com/warranty](http://marvin.com/warranty). The following summary is subject to the terms, condition, limitations and exclusions set forth in the Marvin Windows and Door Limited Warranty and Products in Coastal Environments Limited Warranty Supplement:



- A. Clear insulating glass with stainless steel spacers is warranted against seal failure caused by manufacturing defects and resulting in visible obstruction through the glass for twenty (20) years from the original date of purchase. Glass is warranted against stress cracks caused by manufacturing defects from ten (10) years from the original date of purchase.
- B. Factory applied interior finish is warranted to be free from finish defects for a period of five (5) years from the original date of purchase.
- C. Hardware and other non-glass components are warranted to be free from manufacturing defects for ten (10) years from the original date of purchase.

## Part 2 Products

### 2.1 Manufactured Units

- A. Description: Wood Ultimate Double Hung, Single Hung, Transom, Picture, as Manufactured by Marvin Windows and Doors, Warroad, Minnesota.
- B. Description: Wood Ultimate Double Hung, Single Hung Round Top as manufactured by Marvin Windows and Doors, Warroad, Minnesota.
- C. Description: Wood Ultimate Double Hung Bow unit, (and related stationary units) as manufactured by Marvin Windows and Door, Warroad, Minnesota.
  - 1. Available in 3, 4, 5, and 6 wide assemblies
  - 2. 6 degree angle
  - 3. With and w/out head and seat board
- D. Description: Wood Ultimate Double Hung Bay Assemblies as manufactured by Marvin Window and Doors, Warroad, Minnesota.
  - 1. Available 30 degree, 45 degree, 60 degree, and 90 degree
  - 2. With and w/out head and seat board

### 2.2 Frame Description

- A. Non Finger-Jointed Pine or finger-jointed core with non finger-jointed Pine veneer; non finger-jointed Mahogany or finger-jointed core with non finger-jointed Mahogany veneer; non finger-jointed Vertical Grain Douglas Fir or finger-jointed with non finger-jointed Vertical Grain Douglas Fir veneer
  - 1. Kiln-dried to moisture content no greater than 12 percent at the time of fabrication
  - 2. Water repellant, preservative treated in accordance with ANSI/WDMA I.S.4.
- B. Frame thickness: 1 1/16" (17mm) head and side jambs

- C. Frame depth: Frame depth had an overall 5 21/32" jamb (144mm). 4 9/16" (116mm) jamb depth from the nailing fin plane to the interior face of the frame for new construction.
- D. Frame bevel: 8 degree bevel on sill and subsill
- E. Subsill: 1 3/32" (28mm)

## 2.3 Sash Description

- A. Interior: Non Finger-Jointed Pine or finger-jointed core with non finger-jointed Pine veneer; non finger-jointed Mahogany or finger-jointed core with non finger-jointed Mahogany veneer; **non finger-jointed Vertical Grain Douglas Fir** or finger-jointed with non finger-jointed Vertical Grain Douglas Fir veneer
  - 1. **Kiln-dried to moisture content no greater than twelve (12) percent at the time of fabrication.**
  - 2. **Water repellant preservative treated with accordance with WDMA I.S.4.**
- B. Sash thickness: 1 5/8" (41mm) for operable units, 1 5/8" (41mm) or 2" (51mm) for picture units
- C. Operable sash tilt to interior for cleaning or removal**
- D. Sash Options: Unequal Sash
- E. Interior Sash Sticking
  - 1. Standard: Ovolo
  - 2. Optional: Interior Square sticking**

## 2.4 Glazing

- A. Select quality complying with ASTM C1036. Insulating glass SIGMA/IGCC certified to performance level CBA when tested in accordance with ASTM E2190.
- B. Glazing method: Insulating glass**
- C. Glazing seal: Silicone glazed**
- D. Glass Type: **Clear**, Bronze, Gray, Reflective Bronze, **Tempered**, Obscure, Laminated, **Low E2 with or without Argon**, Low E3 with or without Argon, Low E1 with or without Argon, Low E2/ERS Argon or air, Low E3/ERS Argon or air,
- E. Tri-pane glass(TG): Tripane Low E1 Argon, Tripane Low E2 Argon, Tripane Low E3 Argon, Tripane Low E1 Krypton/Argon, Tripane Low E2 Krypton/Argon, Tripane Low E3 Krypton/Argon
  - 1. This glass type is dependent on sash thickness and availability
  - 2. Consult ADM or OMS for availability

## 2.5 Finish

*PRIMED*

### A. Interior/Exterior: Treated bare wood

1. Prime: factory-applied enamel primer. Available on Pine product only.

### B. Interior Finish options:

1. Painted Interior Finish. Available on Pine product only.
2. Factory-applied water-borne acrylic enamel clear coat. Applied in two separate coats with light sanding between coats. Available on Pine, Mahogany, and Vertical Grain Douglas Fir.
3. Factory-applied water-borne urethane stain. Stain applied over a wood (stain) conditioner. A water-borne acrylic enamel clear coat applied in two separate coats, with light sanding between coats, applied over the stain. Available on Pine, Mahogany, and Vertical Grain Douglas Fir. Colors available: Wheat, Honey, Hazelnut, Leather, Cabernet, and Espresso.

## 2.6 Hardware

- A. Balance System: Coil spring block and tackle with nylon cord and fiber filled nylon clutch
- B. Jamb Carrier: Vinyl extrusion with wood inserts
  1. Color: beige
- C. Lock: High pressure zinc die-cast cam lock and keeper
  1. Finish: Phosphate coated and electrostatically painted Satin Taupe, Bronze, White, Brass, Satin Chrome, Satin Nickel, Antique Brass, Oil Rubbed Bronze
- D. Check rail guide
- E. Optional Window Operating Control Device

## 2.7 Weather Strip

- A. Operating units:
  1. Continuous, leaf weather strip at head jamb, parting stop, dual durometer bulb at check rail, foam bulb type dual durometer weather strip on vertical sash edge; dual durometer bulb weather strip at bottom rail
- B. Stationary units:
  1. Continuous, bulb weather strip at perimeter of sash, concealed slotted bulb weather strip on exterior of sash, pile strip on interior of blind stop, dual durometer bulb weather strip at bottom rail.

## 2.8 Jamb Extension

- A. Jamb extensions are available for various wall thickness factory-applied up to a 12" (305mm) wide
- B. Finish: Match interior frame finish

## 2.9 Heat/Seat Board (For use with Bow and Bay units)

- A. Factory-installed (head board) (seat board) for wall thickness indicated or required
- B. Finish: match interior finish

## 2.10 Insect Screen

- A. Factory-installed full or half screen. Half screen covers sash opening.
  - 1. Screen Mesh: Charcoal fiberglass, charcoal aluminum wire, black aluminum wire, bright aluminum wire, bright bronze wire, Hi-Tran fiberglass mesh
- B. Aluminum frame finish:
  - 1. Color: Stone White, Bahama Brown, Bronze, Pebble Gray, Evergreen, Sierra White, Coconut Cream, French Vanilla, Cashmere, Desert Beige, Cumulus Gray, Cadet Gray, Ebony, Arctic White, Cascade Blue, Hampton Sage, Wineberry, Bright Silver (pearlescent), Copper (pearlescent)
- C. Optional Magnum Screen:
  - 1. Extruded aluminum surround with charcoal Hi-Tran fiberglass mesh

## 2.11 Wood Combination Storm Sash and Screen

- A. Frame: Finger-jointed Pine, Mahogany, Vertical Grain Douglas Fir
  - 1. Kiln-dried to moisture content no greater than twelve (12) percent at the time of fabrication
  - 2. Water repellant preservative treated in accordance with WDMA I.S.4.
  - 3. Frame thickness: 1-1/16 inches (26 mm)
  - 4. Extruded aluminum track utilized to hold storm and screen panels
  - 5. Finish: Treated bare wood; Latex prime coat, white – available for Pine wood species only
- B. Hardware: Spring loaded latches to hold removable storm panel in position
- C. Weather strip: Pile weather strip seals between operating panels and against stiles of main frame



- D. Storm Panel: Select quality glass in aluminum frame
  - 1. Frame finish: Bronze; Bahama Brown; Pebble Gray; White; Evergreen
- E. Insect Screen Panel:
  - 1. Extruded aluminum surround, screen mesh: Charcoal fiberglass; charcoal aluminum wire; black aluminum wire; bright aluminum wire; bright bronze wire, Hi-Tran fiberglass screen mesh
  - 2. Aluminum frame finish: Bronze; White; Bahama Brown; Pebble Gray; Evergreen
- F. Wood Storm Sash: Select quality glass in clear Pine, Mahogany, and Vertical Grain Douglas Fir frame
  - 1. Top Rail and stiles: 2-1/8 inches (54 mm) wide
  - 2. Bottom rail: 4-1/16 inches (103 mm) wide
  - 3. Sash thickness: 1-3/32 inches (28 mm)
  - 4. Finish: Latex prime coat, white – available for Pine wood species only

## **2.12 Interior Shade**

- A. Cellular shade is attached to the window with a removable surround system that houses the cellular shade system
  - 1. Minimum jamb depth required 5 13/16" (148mm)
  - 2. Shade cartridge is removable and replaceable
  - 3. Shade control: Top down, bottom up
- B. Wood wrapped extruded aluminum cellular shade
  - 1. Single non-fire rated hexagonal honeycomb (cellular) 3/4" (19mm)
  - 2. Semi-opaque fabric (light filtering)
    - a. Colors: Driftwood, Marigold, Almond, Rose, Denim, Biscuit, Champagne, Moss, Cinnamon, Silver, White, Stone, Tan, Ivory, Eggshell
  - 3. Opaque fabric (blackout)
    - a. Colors: White, Stone, Tan, Ivory, Eggshell

## **2.13 Simulated Divided Lites (SDL)**

- A. 5/8" (16mm) wide, 7/8" (22mm) wide, 1 1/8" (29mm), 1 3/4" (44mm), 2 13/32" (61mm) wide with or w/out internal spacer bar

- B. Muntins: Pine, Mahogany, or Vertical Grain Douglas Fir
- C. Muntins adhere to glass with closed-cell copolymer acrylic foam tape
- D. Sticking:
  - 1. Standard: Ovolo
  - 2. Optional: Interior Square sticking
- E. Pattern: Rectangular, diamond, custom lite cut
- F. Finish: Match panel finish

## **2.14 Grilles-Between-the-Glass (GBG)**

- A. 23/32" (18mm) contoured aluminum bar.
  - 1. Exterior Colors: Stone White. The exterior GBG color is designed to best match the Marvin aluminum clad color when used with LoE glass. The use of different types of glazing may alter the exterior GBG color appearance.
  - 2. Standard Interior Color: Stone White
  - 3. Optional Interior Colors: Bronze, Pebble Gray, Sierra, White, Ebony (only available with Ebony exterior)
- B. Optional flat aluminum spacer bar. Contact your Marvin representative.
- C. Pattern: Rectangular, Cottage, Custom lite layout

## **2.15 Authentic Divided Lites (ADL)**

- A. 1 1/2" (38mm) insulating Pine, Mahogany, Vertical Grain Douglas Fir muntins or 7/8" (22mm) single glaze ADL with energy panel
  - 1. Pattern: Rectangular; Custom lite layout
  - 2. Finish: Match sash finish

## **2.16 Accessories and Trim**

- A. Installation Accessories:
  - 1. Factory installed vinyl nailing/drip cap
  - 2. Installation brackets: 6 3/8" (162mm), 9 3/8" (283mm), 15 3/8" (390mm)
  - 3. Masonry brackets: 6" (152mm), 10" (254mm)
- B. Exterior Wood Moulding:



1. Profile: Brick Mould Casing, Flat Casing, Stucco Brick Mould, Stucco Flat Casing, Special Casing 3 (SPC3), Special Casing 7 (SPC7), Special Casing 21 (SPC21), Special Casing 18 (SPC18), Special Casing 26 (SPC26)
  2. Finish: Match exterior frame finish
- C. Cedar Dress:
1. Sill
  2. Subsill
  3. Blind stops and jamb covers
  4. Mull covers
  5. Brick Mould and Flat Casing
  6. Available on Pine frames
  7. Bare cedar

## **Part 3 Execution**

### **3.1 Examination**

- A. Verification of Condition: Before installation, verify openings are plumb, square and of proper dimensions as required in Section 01 71 00. Report frame defects or unsuitable conditions to the General contractor before proceeding.
- B. Acceptance of Condition: Beginning on installation confirms acceptance of existing conditions.

### **3.2 Installation**

- A. Comply with Section 01 73 00.
- B. Assemble and install window/door unit(s) according to manufacturer's instruction and reviewed shop drawing.
- C. Install sealant and related backing materials at perimeter of unit or assembly in accordance with Section 07 92 00 Joint Sealants. Do not use expansive foam sealant.
- D. Install accessory items as required.
- E. Use finish nails to apply wood trim and mouldings.

### **3.3 Field Quality Control**

- A. Remove visible labels and adhesive residue according to manufacturer's instruction.

- B. Unless otherwise specified, air leakage resistance tests shall be conducted at a uniform static pressure of 75 Pa ( $\sim 1.57$  psf). The maximum allowable rate of air leakage shall not exceed  $2.3 \text{ L/sm}^2$  ( $\sim 0.45 \text{ cfm/ft}^2$ ).
- C. Unless otherwise specified, water penetration resistance testing shall be conducted per AAMA 502 and ASTM E1105 at 2/3 of the fenestration products design pressure (DP) rating using "Procedure B" – cyclic static air pressure difference. Water penetration shall be defined in accordance with the test method(s) applied.

### **3.4 Cleaning**

- A. Remove visible labels and adhesive residue according to manufacturer's instruction.
- B. Leave windows and glass in a clean condition. Final cleaning as required in Section 01 74 00.

### **3.5 Protecting Installed Construction**

- A. Comply with Section 07 76 00.
- B. Protecting windows from damage by chemicals, solvents, paint or other construction operations that may cause damage.

End of Section



## Wood Ultimate Outswing Bi-Fold Door

### Unit Features



#### Bi-fold Door:

WMOBFD - Wood Ultimate Outswing Bi-fold Door

- Choose from 1 to 16 panels, 91 configurations. Configurations include left, right, or center operation. Some configurations include an access panel that opens like a traditional swinging door for easy access. Other configurations have folding panels that allow for an uninhibited opening.

#### Frame:

- Frame components are 1 1/16" (27) thick with a jamb depth of 5 9/16" (142)
- Frame consists of jamb(s), head jamb, and sill
- Constructed of finger-jointed, edge-glued core with clear pine to the interior and exterior. Finger-joint material may be used on header lengths over 12' (3658).
- Alternative wood species include Mahogany or Mixed Grain Douglas Fir
- Standard frame head and jambs are pine core with alternate species veneer

#### Sill:

- Performance sill is designed to be installed into any floor foundation and is made as a sealed draining system with enhanced thermal properties
  - Material: Glass-filled polyurethane, beige or bronze
  - Extruded aluminum sill insert, beige or bronze
  - Frame weather strip, beige or black
  - Extruded aluminum sill liner, beige or bronze default (optional wood-wrapped mahogany)
  - 6 21/32" (169) wide x 2 5/32" (55) tall
- Low Profile Sill
  - Material: Aluminum exterior and interior separated by a thermal break, clear or dark bronze anodized
  - 6 21/32" (169) wide x 1 7/64" (28) high
  - No performance warranty for air/water infiltration
- Floor Channel
  - Material: Extruded aluminum, beige or bronze
  - 1 49/64" (24) wide x 1 7/64" (28) high
  - No performance warranty for air/water infiltration

#### Panel:

- Constructed of finger-jointed, edge-glued core with clear pine to the interior and extruded aluminum to the exterior.
- Panel thickness: 2 1/4" (57)
  - Top and bottom rail heights, and stile widths: 4 3/4" (121)
  - Top and bottom rail material
    - Finger-joint core is used for Pine, Vertical Grain Douglas Fir, and Mahogany
    - LVL is used for White Oak
- Stile material
  - LVL is used for all species.
- Astragal:
  - Astragals applied to one panel in configurations that are bi-parting.
  - Astragal profile: Ogee profile defaults to ogee sticking, square profile defaults to square sticking.
- Raised/Flat panel option: (not available with CE mark)
  - Standard stamped raised wood panel to the exterior with foam backing
  - Flat panel uses wood to the exterior
  - Core is medium density fiberboard (MDF) with non finger-jointed wood laminated to the interior
  - Raised and Flat Panels are only available with traditional (8 1/8") bottom rail.

## Wood Ultimate Outswing Bi-Fold Door

### Unit Features

#### Hardware:

##### • Hinges

- Includes pivot, hinge, offset hinge, end carrier and intermediate sets
- Material: Aluminum hinge leaves with stainless steel carriers
- Available Colors: Painted: White, Satin Nickel, Bronze, or Anodized: Matte Black
- Optional mixed finishes available

##### • Multi-point lock:

- Applied to active panel
- 2 3/8" backset with latch engagement and three locking points: deadbolt, sill bolt, and head bolt
- All active panels have multi-point locks
- Contemporary handle set finish options (Default)
  - Painted: Matte Black, Dark Bronze,
  - Plated: Oil Rubbed Bronze PVD, Satin Nickel PVD
  - Gallery Collection Hardware available in all finishes except Brass
- Traditional handle set finish options (Option)
  - Painted: White, Dark Bronze, Matte Black
  - Plated: Oil Rubbed Bronze, Oil Rubbed Bronze PVD, Satin Nickel PVD
  - Gallery Collection Hardware available in all finishes except Brass

##### • Folding Panel Handle

- Material: Zinc
- Available Colors: Painted: White, Dark Bronze, Matte Black, or Plated: Satin Nickel

##### • Inactive Panel Lock

- Manual flush bolts are default. Optional inactive trim set with use of multi-point or dummy trim set with use of manual flush bolt

##### • Magnetic door catch assembly

- Color: housing matches cladding color, with a black magnet

## Unit Features Continued

### Glass and Glazing:

- Glazing method: Insulating - Dual Pane or Tri Pane
- Glazing seal: Silicone glazed
- Standard glass: Insulating Dual Pane Low E2 with Argon or Air
- Optional dual-pane glass make-ups:
  - Low E1 Argon or Air,
  - Low E3 Argon or Air,
  - Low E2/ERS Argon or air,
  - Low E3/ERS Argon or air, clear, tints, tempered, obscure, and decorative glass options
- Optional Tri Pane glass make-ups:
  - Low E2/E1 Argon, Krypton-Argon, or Air
  - Low E3/E1 Argon, Krypton-Argon, or Air
  - Low E1 Argon, Krypton-Argon, or Air
- Available glass types:
  - Laminated
  - Tempered
  - Obscure
- Tints:
  - Bronze
  - Gray
  - Green
  - Reflective Bronze
- Decorative glass options:
  - Frost
  - Reed
  - Narrow Reed
  - Rain
  - Sandblasted
  - Glue Chip
- All glass is of select quality complying with ASTM C 1036. Tempered or Laminated safety glazing per CPSC 16 CFR 1201. Insulating glass is manufactured and tested to pass level ASTM 2190 and is IGCC certified.
- For additional specialty glazing options, please contact your Marvin representative.

### CE Optional Glazing:

- Glazing method: Tempered Insulating
- Glazing seal: Silicone glazed exterior
- Standard glass is insulating Low E2 Argon or air
- Optional dual glazing available: Low E1 Argon or air, Low E3 Argon or air, Low E2/ERS argon or air, Low E3/ERS Argon or air, clear, laminated clear and tints, tempered, sandblasted
- Optional Tripane glass types: Low E1/E1 Argon or Krypton-Argon, Low E2/E2 Argon or Krypton-Argon, Low E3/E1 Argon or Krypton-Argon
- Glass panes available in 3, 4, and 6 mm thicknesses
- Laminated panes available in 7.0 and 7.8 mm thicknesses
- Laminated tints available in clear, white, bronze, gray and green
- Glazing will be altitude adjusted for higher elevations, Argon, Argon-Krypton, and Krypton gas not included

## Unit Features

### Weather Strip:

- All units are constructed with vinyl weather strip at all panel perimeter joints. Weather strip exposed to the exterior will be a UV (ultraviolet) resistant material.
- Sill weather strip
  - Foam-filled leaf
  - Colors: Beige for beige sill, Black for bronze sill
- Jamb and Head Jamb weather strip
  - Foam-filled leaf
  - Colors: Beige or Black
- Panel weather strip
  - Top rail cap weather strip
    - Bulb
    - Colors: Beige or Black
  - Stile weather strip
    - Bulb (bi-parting swinging panel) - Beige or Black
    - Foam-filled bulb (exterior) - Beige or Black
    - Foam-filled leaf (exterior) - Beige or Black
    - Foam-filled leaf (interior) - Beige or Black
    - Rigid vinyl (bi-parting inactive panel) - Beige or Black
  - Astragal weather strip
    - Bulb
    - Colors: Beige or Black

### Interior Screen:

- Scenic Door Ultimate Sliding Screen
  - Screen Frame color:
    - Standard: White, Bronze, Black, and Clear Anodized.
    - Options: Screen sill will default to the screen color, but screen sills can be any of the three colors.
  - Handle Pull colors: Black and White
- Screen mesh: Vinyl-coated polyester
  - Color: Charcoal
- Uni-Directional Screen:
  - Open from left to right or right to left
  - Maximum Screen Frame OM Width is 152 17/64" (3868)
  - Not available on bi-parting door
- Bi-Parting Screen:
  - Two screens open from each side and meet together
  - Maximum Screen Frame OM Width is 296 17/64" (7525)
- Maximum Screen OM Height for all configurations is 125 5/32" (3179)

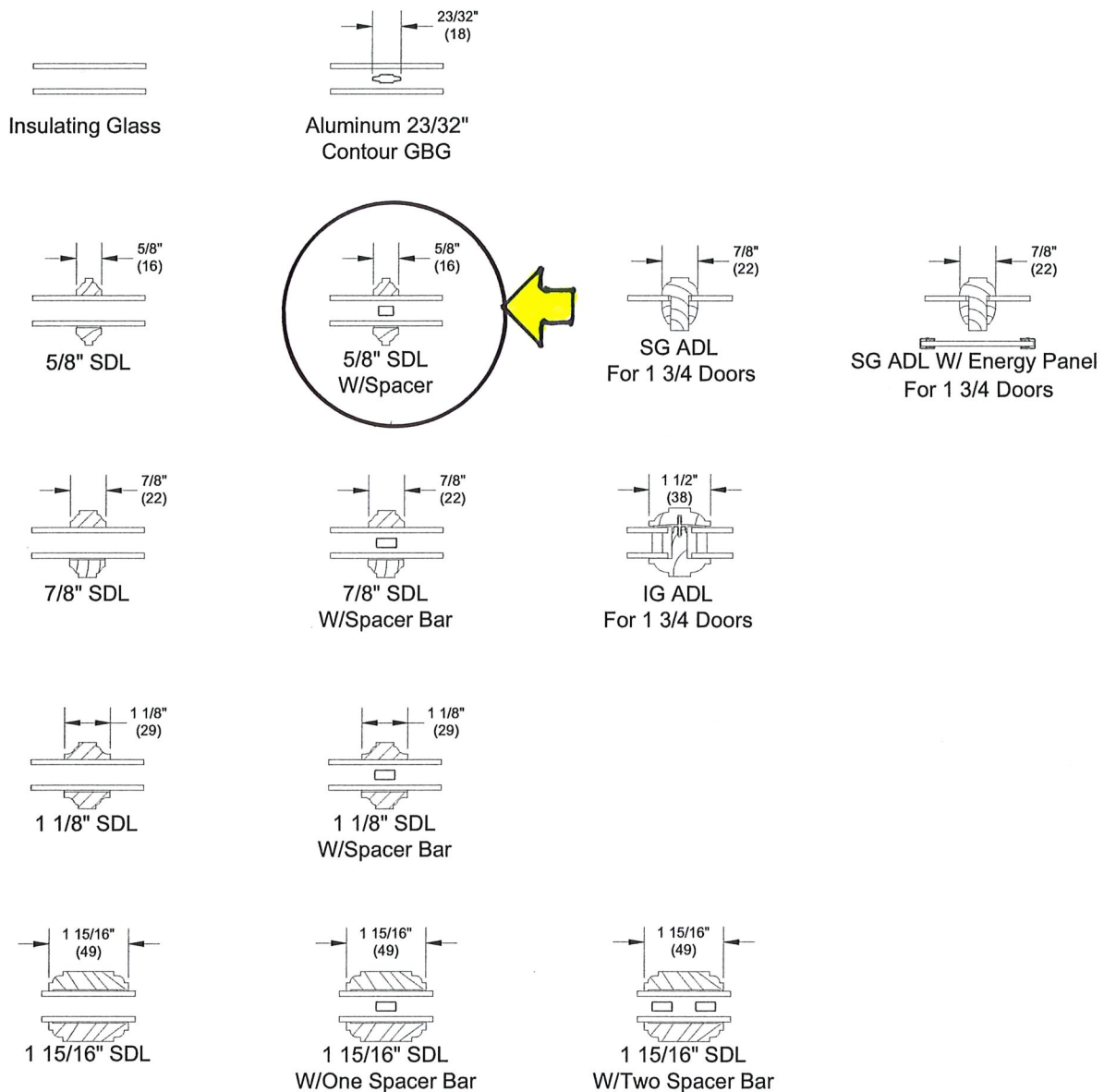
### Packaging:

- Knocked-Down (KD) only
- Panels are packaged in cardboard and stretch wrapped up to CN3690 panel sizes. Panels over CN3690 are packaged and shipped on returnable racks where an 8,000 pound capable fork lift is required. Frames are packaged in skeleton wood crates.



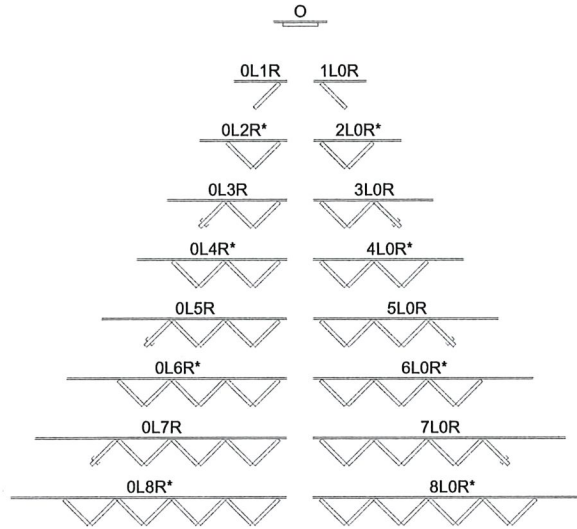
# Wood Ultimate Outswing Bi-Fold Door

## Standard Divided Lite Option

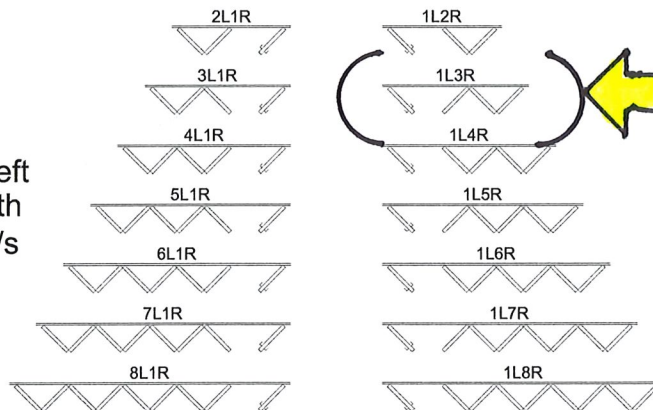


## Configurations

### Stationary Unit

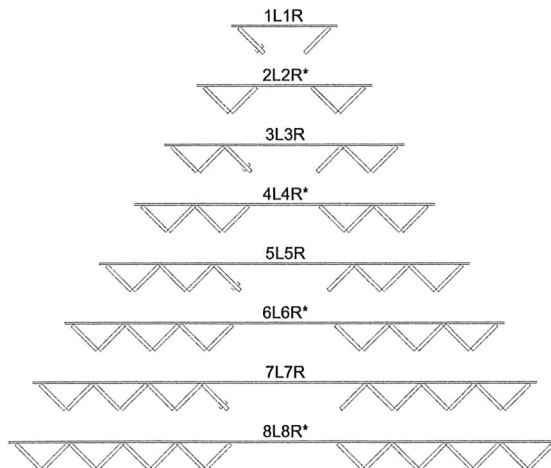


### Uni-directional Left or Right Units



### Uni-directional Left or Right Units with Operating Panel/s

### Bi-parting (equal) Units

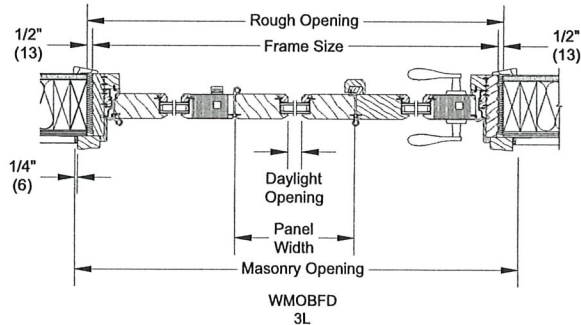
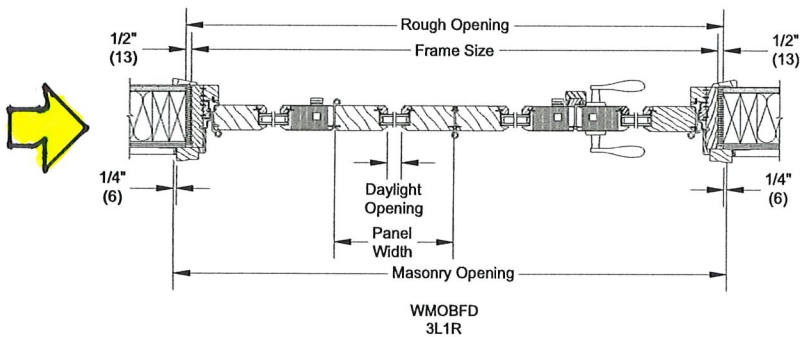
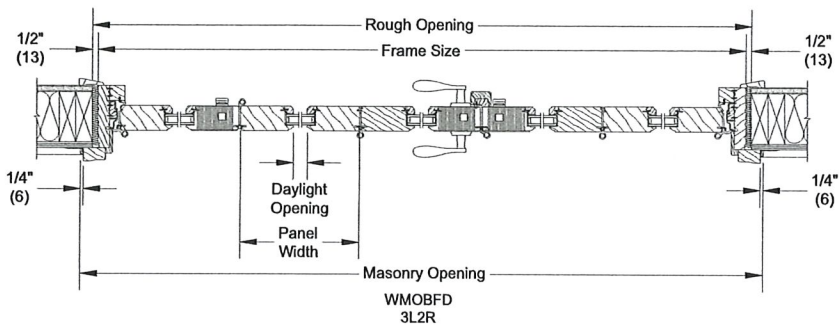
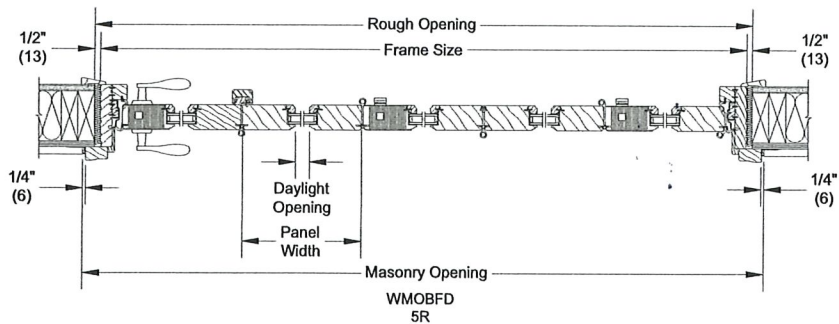


\* Not accessible from the exterior.

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Section Details: Horizontal

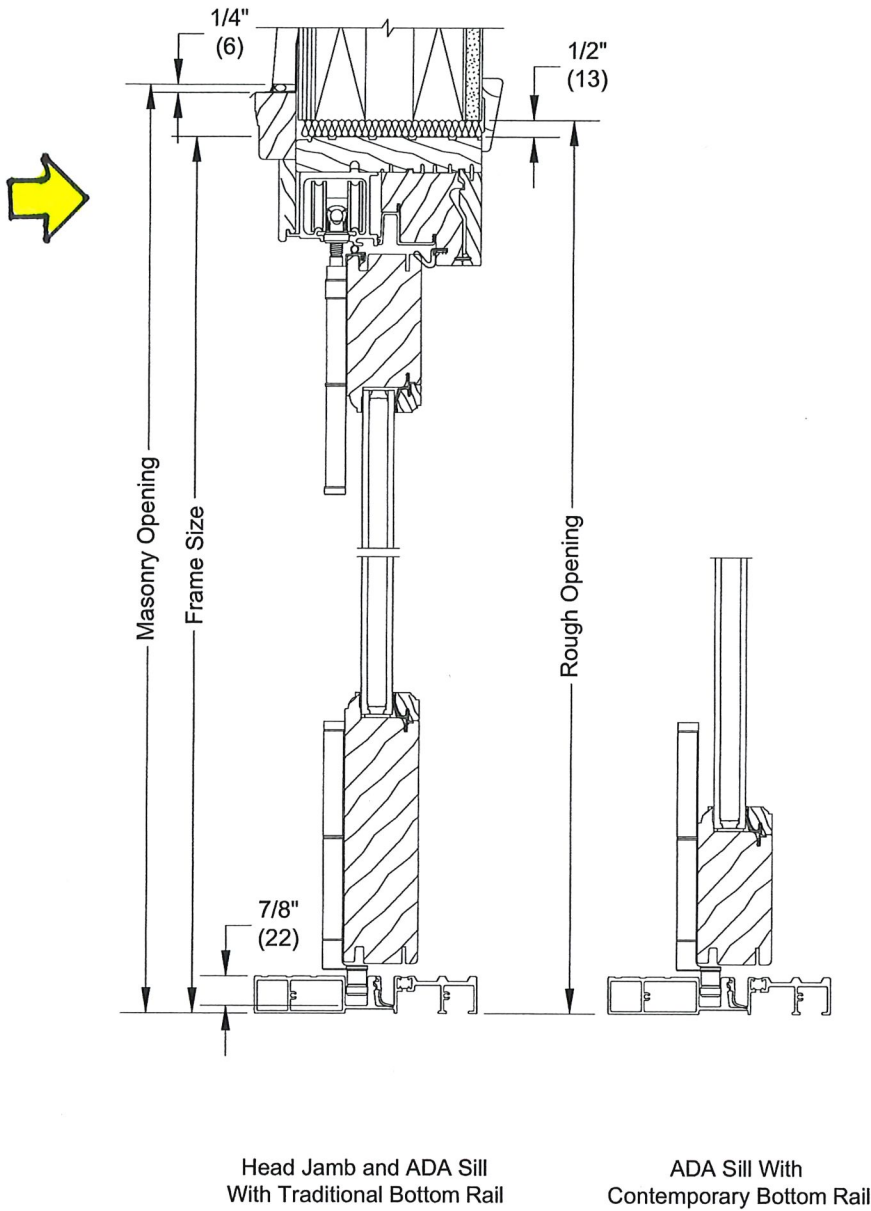
Scale: Note to Scale



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Sill Detail: Low Profile Sill

Scale: Not to Scale





# Wood Ultimate Outswing Bi-Fold Door

## Standard Size Chart

Ultimate Outswing Bifold Door											
Width											
Unit Type	CN	Masonry Opening		Rough Opening		Frame Size		Panel OM		Daylight Opening	
		in	mm	in	mm	in	mm	in	mm	in	mm
O (Stationary)	2-6	33 13/32	(848)	33 29/32	(861)	32 29/32	(836)	29 1/16	(738)	19 19/32	(498)
	3-0	39 13/32	(1001)	39 29/32	(1014)	38 29/32	(988)	35 1/16	(891)	25 19/32	(650)
	3-6	45 13/32	(1153)	45 29/32	(1166)	44 29/32	(1141)	41 1/16	(1043)	31 19/32	(803)
1L or 1R	2-6	33 13/32	(848)	33 29/32	(861)	32 29/32	(836)	29 1/16	(738)	19 19/32	(498)
	3-0	39 13/32	(1001)	39 29/32	(1014)	38 29/32	(988)	35 1/16	(891)	25 19/32	(650)
	3-6	45 13/32	(1153)	45 29/32	(1166)	44 29/32	(1141)	41 1/16	(1043)	31 19/32	(803)
1L1R LH or 1L1R RH	5-0	62 41/64	(1591)	63 9/64	(1604)	62 9/64	(1578)	29 1/16	(738)	19 19/32	(498)
	6-0	74 41/64	(1896)	75 9/64	(1909)	74 9/64	(1883)	35 1/16	(891)	25 19/32	(650)
	7-0	86 41/64	(2201)	87 9/64	(2213)	86 9/64	(2188)	41 1/16	(1043)	31 19/32	(803)
2L or 2R	5-0	62 47/64	(1594)	63 15/64	(1606)	62 15/64	(1581)	29 1/16	(738)	19 19/32	(498)
	6-0	74 47/64	(1898)	75 15/64	(1911)	74 15/64	(1886)	35 1/16	(891)	25 19/32	(650)
	7-0	86 47/64	(2203)	87 15/64	(2216)	86 15/64	(2190)	41 1/16	(1043)	31 19/32	(803)
2L1R or 1L2R	7-6	91 59/64	(2335)	92 27/64	(2348)	91 27/64	(2322)	29 1/16	(738)	19 19/32	(498)
	9-0	109 59/64	(2792)	110 27/64	(2805)	109 27/64	(2779)	35 1/16	(891)	25 19/32	(650)
	10-6	127 59/64	(3249)	128 27/64	(3262)	127 27/64	(3237)	41 1/16	(1043)	31 19/32	(803)
3L or 3R	7-6	91 31/32	(2336)	92 15/32	(2349)	91 15/32	(2323)	29 1/16	(738)	19 19/32	(498)
	9-0	109 31/32	(2793)	110 15/32	(2806)	109 15/32	(2780)	35 1/16	(891)	25 19/32	(650)
	10-6	127 31/32	(3250)	128 15/32	(3263)	127 15/32	(3238)	41 1/16	(1043)	31 19/32	(803)
3L1R or 1L3R	10-0	121 13/64	(3079)	121 45/64	(3091)	120 45/64	(3066)	29 1/16	(738)	19 19/32	(498)
	12-0	145 13/64	(3688)	145 45/64	(3701)	144 45/64	(3676)	35 1/16	(891)	25 19/32	(650)
	14-0	169 13/64	(4298)	169 45/64	(4311)	168 45/64	(4285)	41 1/16	(1043)	31 19/32	(803)
4L or 4R	10-0	121 19/64	(3081)	121 51/64	(3094)	120 51/64	(3068)	29 1/16	(738)	19 19/32	(498)
	12-0	145 19/64	(3691)	145 51/64	(3703)	144 51/64	(3678)	35 1/16	(891)	25 19/32	(650)
	14-0	169 19/64	(4300)	169 51/64	(4313)	168 51/64	(4288)	41 1/16	(1043)	31 19/32	(803)
2L2R	10-0	121 5/16	(3082)	121 13/16	(3094)	120 13/16	(3069)	29 1/16	(738)	19 19/32	(498)
	12-0	145 5/16	(3691)	145 13/16	(3704)	144 13/16	(3678)	35 1/16	(891)	25 19/32	(650)
	14-0	169 5/16	(4301)	169 13/16	(4313)	168 13/16	(4288)	41 1/16	(1043)	31 19/32	(803)
4L1R or 1L4R	12-6	150 31/64	(3822)	150 63/64	(3835)	149 63/64	(3810)	29 1/16	(738)	19 19/32	(498)
	15-0	180 31/64	(4584)	180 63/64	(4597)	179 63/64	(4572)	35 1/16	(891)	25 19/32	(650)
	17-6	210 31/64	(5346)	210 63/64	(5359)	209 63/64	(5334)	41 1/16	(1043)	31 19/32	(803)
5L or 5R	12-6	150 17/32	(3824)	151 1/32	(3836)	150 1/32	(3811)	29 1/16	(738)	19 19/32	(498)
	15-0	180 17/32	(4586)	181 1/32	(4598)	180 1/32	(4573)	35 1/16	(891)	25 19/32	(650)
	17-6	210 17/32	(5348)	211 1/32	(5360)	210 1/32	(5335)	41 1/16	(1043)	31 19/32	(803)
5L1R or 1L5R	15-0	179 25/32	(4566)	180 9/32	(4579)	179 9/32	(4554)	29 1/16	(738)	19 19/32	(498)
	18-0	215 25/32	(5481)	216 9/32	(5493)	215 9/32	(5468)	35 1/16	(891)	25 19/32	(650)
	21-0	251 25/32	(6395)	252 9/32	(6408)	251 9/32	(6382)	41 1/16	(1043)	31 19/32	(803)
6L or 6R	15-0	179 7/8	(4569)	180 3/8	(4581)	179 3/8	(4556)	29 1/16	(738)	19 19/32	(498)
	18-0	215 7/8	(5483)	216 3/8	(5496)	215 3/8	(5470)	35 1/16	(891)	25 19/32	(650)
	21-0	251 7/8	(6397)	252 3/8	(6410)	251 3/8	(6385)	41 1/16	(1043)	31 19/32	(803)
4L2R or 2L4R	15-0	179 57/64	(4569)	180 25/64	(4582)	179 25/64	(4556)	29 1/16	(738)	19 19/32	(498)
	18-0	215 57/64	(5483)	216 25/64	(5496)	215 25/64	(5471)	35 1/16	(891)	25 19/32	(650)
	21-0	251 57/64	(6398)	252 25/64	(6411)	251 25/64	(6385)	41 1/16	(1043)	31 19/32	(803)