

Section 08 14 23
Ultimate Inswing / Outswing French Door IZ3

Part 1 General

1.1 Section Includes

- A. Ultimate Inswing / Outswing French Door and frame complete with hardware, glazing, weather strip, insect screen, grilles-between-the-glass, simulated divided lite, jamb extension, raised/flat panel, interior shades, 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 63 00 – Product Substitution Procedures
- D. Section 01 65 00 – Product Delivery
- E. Section 01 66 00 – Product Storage and Handling Requirements
- F. Section 01 71 00 – Examination and Preparation
- G. Section 01 73 00 - Execution
- H. Section 01 74 00 – Cleaning and Waste Management
- I. Section 01 75 00 – Starting and Adjusting
- J. Section 01 76 00 – Protecting Installed Construction
- K. Section 06 22 00 – Millwork: Wood trim other than furnished by door and frame manufacturer
- L. Section 07 92 00 – Joint Sealants: Sill sealant and perimeter caulking
- M. Section 08 71 00 – Door Hardware: Hardware other than furnished by door and frame manufacturer
- N. Section 09 90 00 – Paints and Coatings: Paint and stain other than factory-applied finish

1.3 References

- A. American Society for Testing and 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 Doors by Uniform Static Air Pressure Difference

3. E547: Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Cyclic
 4. E2190: Specification for Sealed Insulated Glass Units
 5. C1036: Standard Specification for Flat Glass
 6. E1996: Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Windborne Debris in Hurricanes
 7. E1886: Standard Test Method for Performance of Exterior Windows, Curtain Walls, Door and Storm Shutters Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials
- B. American Architectural Manufacturer's Association / Window and Door Manufacturer's Association (AAMA / WDMA/CSA):
1. AAMA/WDMA/CSA 101/I.S.2/A440-05: Standard/Specification for windows, doors, and unit skylights
 2. AAMA/WDMA/CSA 101/I.S.2/A440-08: 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 Gain Coefficients at Normal Incidence
- H. Window Covering Manufacturer's Association
1. A100.1 Standard for safety of corded window 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		# of Panels
						in	mm	in	mm	
Ultimate Inswing French Door IZ3 6080 (XX)	1.57	8.25	82.5	LC-PG55-SHD	+55/-65	72 5/8	(1845)	95 1/2	(2426)	2
Ultimate Inswing French Door IZ3 Sidelite 3080 (O)	1.57	8.25	82.5	LC-PG55-FD	+55/-65	37 7/16	(951)	95 1/2	(2426)	1
Ultimate Inswing French Door IZ3 Transom	1.57	8.25	82.5	LC-PG55-TR	+55/-65	72 5/8	(1845)	30	(762)	1

Product	Air Tested to psf	Water Tested to psf	Structural Tested to psf	Certification Rating	Design Pressure (DP)	Overall Width		Overall Height		# of Panels
						in	mm	in	mm	
Ultimate Outswing French Door IZ3 6080 (XX)	1.57	8.25	82.5	LC-PG55-SHD	+55/-65	72 5/8	(1845)	95 1/2	(2426)	2
Ultimate Outswing French Door IZ3 Sidelite 3080 (O)	1.57	8.25	82.5	LC-PG55-FD	+55/-65	37 7/16	(951)	95 1/2	(2426)	1
Ultimate Outswing French Door Transom IZ3	1.57	8.25	82.5	LC-PG55-TR	+55/-65	72 5/8	(1845)	30	(762)	1

1. Units shall be designed to comply with WDMA certification
2. Air leakage shall not exceed (\leq .3) cfm per square feet of overall frame when tested at 1.57 psf according to ASMT E283
3. No water penetration when tested at (OFD: DP55-8.25) psf and (IFD: DP55-8.25) psf according to ASTM E547
4. Units shall be designed to comply with ASTM E330 for structural performance when tested to (OFD: +82.5/-97.5) psf and (IFD: +82.5/-97.5) psf
5. Units shall be designed to comply with ASMT E1996-05 for Wind Zone 3 Missile Level D impact and cycle. (OFD: +DP55/-DP65) psf and (IFD: +DP55/-DP65) psf

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

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 door panels flat on a level surface in a clean and dry storage area above ground to protect from weather under provision of Section 01660
- C. Condition doors to local average humidity before hanging

1.9 Warranty

Complete and current warranty information is available at 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. Standard exterior Aluminum Cladding finish is warranted against manufacturing defects resulting in chalk, fade and loss of adhesion (peel) per the American Architectural Manufacturer's Association (AAMA) Specification 2605-11 Section 8.4 and 8.9 for twenty (20) years from the original date of purchase.
- C. 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.
- D. 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: Factory-assembled Ultimate Inswing/Outswing French Door (and related stationary units) as manufactured by Marvin Windows and Doors, Ripley Tennessee

2.2 Frame Description

- A. Interior: Non Finger-Jointed Pine or finger-jointed core with non finger-jointed Pine veneer; optional non finger-jointed Mixed Grain Douglas Fir or finger-jointed core with non finger-jointed Mixed Grain Douglas Fir veneer; optional non finger-jointed White Oak or finger-jointed with non finger-jointed Oak veneer; non finger-jointed Cherry or finger-jointed core with Cherry 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 time of fabrication
 - 2. Water repellent, preservative treated in accordance with WDMA I.S.4.
- B. Frame exterior Aluminum Clad with 0.050" (1.3mm) thick extruded aluminum
- C. Frame width: 4 9/16" (116mm); 6 9/16" (167mm)
- D. Frame thickness: 1 1/16" (27mm)
- E. Beige or Bronze fiberglass reinforced plastic (frp) sill 0.115" (3.0mm) thick. Red Oak, Mahogany, or Cherry interior sill liner (Interior doors to have 11/16" (17mm) thick flat Oak sill with solid aluminum track.

2.3 Panel Description

- A. Non Finger-Jointed, finger-jointed/ edge glued, or LVL Pine, White Oak, Cherry, Mahogany, Vertical Grain Douglas Fir cores with non finger-jointed Pine, White Oak, Cherry, Mahogany, Vertical Grain Douglas Fir veneers.
 - 1. Kiln-dried to moisture content no greater than twelve (12) percent at time of fabrication
 - 2. Water repellent, preservative treated in accordance with WDMA I.S.4.
- B. Panel exterior Aluminum Clad with 0.050" (1.3mm) thick extruded aluminum
- C. Panel thickness: 1 3/4" (44mm)
- D. Top rail and stile width: 4 3/4" (121mm)
- E. Sidelite stile width: 3" (76mm)
- F. Bottom rail height: 8 1/8" (206mm)
- G. Panel corners glued and fastened with 5/8" x 4" (16mm by 102mm) fluted hardwood dowels

2.4 Glazing

- A. Select quality complying with ASTM C 1036. Shall comply with 16 CFR 1201 Safety Standard for Architectural Glazing Materials.
- B. Glazing Method: Laminated annealed interior and tempered exterior

- C. 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
- D. Glazing Seal: Wood interior glazing stops fastened with 1 ½" or 2" nails, sealed with silicone beads at perimeter

2.5 Finish

- A. Exterior: Aluminum Clad. Fluoropolymer modified acrylic top coat applied over primer. Meets AAMA 2605 requirements.
 - 1. Aluminum Clad color options: Bahama Brown, Bronze, Cadet Gray, Cascade Blue, Cashmere, Clay, Coconut Cream, Ebony, Evergreen, Gunmetal, Hampton Sage, Pebble Gray, Sierra White, Stone White, Suede, Wineberry, Bright Silver (pearlescent), Copper (pearlescent), Liberty Bronze (pearlescent)
 - 2. Custom colors: Contact your Marvin representative
- B. Interior Finish Options:
 - 1. Prime: Factory-applied enamel primer. Available on Pine product only. Meets WDMA TM-11 requirements.
 - 2. Painted Interior Finish. Available on Pine product only. Available in White or Designer Black. Meets WDMA TM-14 requirements.
 - 3. Factory-applied water-borne acrylic enamel clear coat. Applied in two separate coats with light sanding between coats. Available on Pine, Mahogany, Vertical Grain Douglas Fir, Mixed Grain Douglas Fir, Cherry, White Oak. Meets WDMA TM-14 requirements.
 - 4. Factory-applied water-borne stain. Stain applied over a wood (stain) conditioner. A water-borne acrylic enamel clear coat applied in two separate coats, with light sanding coats, applied over the stain. Available on Pine, Mahogany, and Vertical Grain Douglas Fir, Mixed Grain Douglas Fir, Cherry, White Oak. Colors available: Wheat, Honey, Hazelnut, Leather, Cabernet, or Espresso. Meets WDMA TM-14 requirements.

2.6 Hardware

- A. Adjustable Hinges:
 - 1. 4 ¼" x 3 ¾" with 3/8" radius corners. Adjustment is 3/16" for horizontal and vertical of panels in frame
 - 2. Three adjustable hinges on 6-5 and 6-8 heights; four on 7-0 and 8-0 heights. Standard finish is Satin Taupe with steel substrate
 - 3. Optional powder coat finish: Gold tone, Dark Bronze, Silver Frost, White.
 - 4. Optional metal finish: PVD Brass, Antique brass, Oil Rubbed Bronze PVD, Satin Chrome, PVD Satin Nickel, Polished Chrome.

B. Butt Hinges:

1. 4" x 4: with radius corners
2. Outswing hinge has a non-removable pin
3. Units with rough opening height ,86 ½" (2198mm) have three hinges, units with rough opening greater or equal to 86 ½" (2198mm) up to 110 ½" (2807mm) have four hinges, units with rough opening greater than 110 ½" (2807mm) have five hinges
4. Finish (inswing) Default: Satin Taupe with steel substrate
 - a. Optional finish: Brass Plated, Solid Brass, Antique Brass, Oil rubbed Bronze, Satin Chrome, Satin Nickel, White, Stainless Steel, Polished Chrome, or Satin Nickel PVD
5. Finish (outswing): Solid Brass, Stainless Steel, or Satin Nickel PVD

C. Traditional Handle Set: Active and Inactive

1. Powder Coat finishes: Satin Taupe, White, or Dark Bronze. (Zinc die-cast substrate)
2. Metal finishes: PVD Brass, Antique Brass, Oil Rubbed Bronze, Satin Chrome, Polished Chrome, Oil rubbed Bronze PVD, and PVD Satin Nickel. (Brass substrate)

D. Contemporary Handle Set: Active and Inactive

1. Painted finishes: Satin Taupe or Dark Bronze (Aluminum)

E. Locking System:

1. Active panel: Marvin exclusive concealed multi-point locking system. Stainless steel head and shoot bolts operated from lever set. One inch dead bolt (Keyed alike)
2. Inactive panel: Stainless steel head and shoot bolts operated from lever set.

2.7 Lock Status Sensor (Optional)

A. Lock Status Sensor

1. Unit is factory-prepared for an integrated lock status sensor system. Contact sensor mounted inside the boundaries of the operating panel. Refer to **Lock Status Sensor Installation Instructions**.
2. Lock Status Sensor wireless only.
 - a. Only wireless option available. Requires purchase of secondary transmitter for operation. Marvin will prep for this option.
3. For Swinging Doors, the **sensor** will always be integrated into the locking hardware system.
4. The **actuator** (keyed or thumb turn) is integrated into the locking hardware system.

2.8 Weather Strip

- A. Inswing: Head jamb and side jambs to have two sets of bulb weather strip maintaining contact with door panels
 - 1. Color: Beige or black
- B. Outswing: Head jamb and side jambs to have single bulb weather strip maintaining contact with door panels
 - 2. Color: Beige or black
- C. Inswing and Outswing: Threshold to have bulb weather strip maintaining contact with bottom of panel
 - 1. Color: Beige or black
- D. Inswing: Vinyl panel drip applied to bottom rail
 - 1. Color: Beige or black
- E. Panel: Active panel sweep, inactive panel sweep, panel weather strip, panel cover weather strip, astragal weather strip, bulb weather strip
 - 1. Color: Beige or black
- F. Inswing: Painted aluminum watershed and weep system at sill
 - 1. Color: Beige or bronze

2.9 Jamb Extension

- A. Factory-applied up to 3" (76), for other wall thickness indicated or required (shipped loose)
- B. Finish: Matches interior frame finish

2.10 Insect Screen (Inswing Only)

- A. Standard/Ultimate Sliding Screen
 - 1. Extruded aluminum sliding frame, top hung roller assembly with stainless steel ball bearings in nylon wheels, top rollers adjustable up to ¼" (6mm). Frame to have edge mounted wool pile bug strip.
 - 2. Sliding screen for XO, OX, OOX, XOO, OXXO operation
 - 3. Standard Sliding Screen available in Bahama Brown, Bronze, Evergreen, Pebble Gray, or White
 - 4. Ultimate Sliding Screen comes with a roller bar and profile replicates the look of a traditional wood screen. Screen will match exterior aluminum clad color.

5. Standard screen mesh: Charcoal Fiberglass, or Hi-Trans Fiberglass
 6. Ultimate screen mesh: Charcoal Fiberglass, Charcoal Aluminum Wire, Black Aluminum Wire, Bright Aluminum Wire, Bright Bronze Wire
- B. Standard/Ultimate Swinging Screen (Rectangular Inswing Unit Only)
1. Extruded aluminum swinging frame.
 2. Standard swinging screen: Bahama Brown, Bronze, Evergreen, Pebble Gray, or White
 3. Ultimate swinging screen with screen and glass insert:
 - a. Aluminum Clad colors: Bahama Brown, Bronze, Cadet Gray, Cascade Blue, Cashmere, Clay, Coconut Cream, Ebony, Evergreen, Gunmetal, Hampton Sage, Pebble Gray, Sierra White, Stone White, Suede, Wineberry, Bright Silver (pearlescent), Copper (pearlescent), Liberty Bronze (pearlescent)
 - b. Glass insert is tempered and available in clear, green, bronze or gray tint
 4. Screen mesh: Charcoal fiberglass, Bronze, Charcoal Aluminum, Silver Aluminum, Black Aluminum, or High Transparency screen mesh (CH Hi-Tran) fiberglass
 5. For standard swinging screen: black hinges: 2 for doors under 90" and 3 hinges for doors over 90". Ultimate swinging screen has 4 hinges per panel and a factory installed Z-bar.
 6. Handle includes latch with exterior handle and internal locking mechanism. Available in Bronze, Satin Nickel, Brass, or Satin Taupe.

2.11 Simulated Divided Lites (SDL)

- A. 5/8" (16mm) wide, 7/8" (22mm) wide, 1 1/8" (29mm) wide), 1 15/16" (49mm), 2 13/32" (61mm) with or w/out internal spacer bar
 1. Standard: Ogee
 2. Optional: Square
- B. Muntins: Pine, Mixed Grain Douglas Fir, White Oak, Cherry, Mahogany, Vertical Grain Douglas Fir
- C. Muntins adhere to glass with double coated acrylic foam tape
- D. Pattern: Rectangular, Cottage, Custom lite layout
- E. Finish: Match panel finish

2.12 Grilles-Between-the-Glass (GBG)

- A. 23/32" contoured aluminum bar

1. Exterior colors: The exterior GBG color is designed to best match the Marvin Aluminum Clad color when used with Low E glass. The use of different types of glazing may alter the exterior GBG color appearance.
 2. Interior Color: White is the default. Optional colors: Bronze, Pebble Gray, Sierra White.
- B. Optional flat aluminum spacer bar. Contact your Marvin representative.
- C. Pattern: Rectangular, Cottage, Custom lite layout

2.13 Raised or Flat Panels

- A. 0.080" aluminum to the exterior with foam backing and laminated veneer to interior for stamped raised panel. Available bare wood or selected interior finish. Available in all aluminum clad colors for exterior. Aluminum Clad colors meeting AAMA 2605 requirements.
- B. 0.125" aluminum to the exterior with foam backing and laminated veneer to interior for flat panel. Available bare wood or selected interior finish. Available in all aluminum clad colors for exterior. All aluminum clad colors meeting AAMA 205 requirements.
- C. Utilizes 4 ¾" intermediate rail. Visible panel height is 12 1/64" (305mm).

2.14 Interior Shades

- A. Cellular shade is attached to the door with a removable traditional or contemporary profile system that houses the cellular shade system and mechanism.
 1. Shade cartridge is removable and replaceable
 2. One shade surround per panel DLO opening
 3. Shade control option of top down, bottom up
 4. Spindle extension is necessary on door handles
- B. Surround Frame
 1. Species: Pine, Mahogany, Vertical Grain Douglas Fir, Mixed Grain Douglas Fir, Cherry, White Oak
 2. Interior finishes: Bare, Prime, Painted Interior Finish (PIF), Clear Interior Finish (CIF), or Stain Interior Finish (SIF)
 3. Pull bar: wood wrapped extruded aluminum
 4. Shade track color: beige (default), white, bronze
 5. End cap color will default with track color
 6. Optional shade cover:
 - a. Short shade cover – doors up to 7-0 height

- b. Tall shade cover – doors over 7-0 height
- C. 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, or Eggshell
 - 3. Opaque Fabric (blackout)
 - a. Colors: White, Stone, Tan, Ivory, or Eggshell

2.15 Accessories and Trim

- A. Installation and Hardware Accessories:
 - 1. Factory installed Aluminum nailing/drip cap
 - 2. Installation brackets: 6 3/8" (162mm), 9 3/8" (238mm), 15 3/8" (390mm)
 - 3. Masonry brackets: 6" (152mm), 10" (254mm)
- B. Aluminum Extrusions:
 - 1. Profile: Brick Mould casing, Flat casing, Stucco brick mould, Stucco flat casing; Frame expander, Jamb extender, Mullion cover, Mullion expander, as indicated on drawings.
 - 2. Finish: Match exterior frame finish.

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 (~1.57 psf). The maximum allowable rate of air leakage shall not exceed 2.3 L/sm² (~0.45 cfm/ft²).
- 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