# Part 1 General

# Section Includes

## Ultimate Casement/Awning Crank Out: Operators, Stationary, and Picture units complete with hardware, glazing, weather strip, insect screen, removable screen, grilles-between-the-glass, simulated divided lite, jamb extension, and standard or specified anchors, trim, and attachments

## Ultimate Casement/Awning Crank Out Bow and Bay units: Operators, Stationary and Picture units complete with hardware, glazing, weather strip, insect screen, removable screen, grilles-between-the-glass, simulated divided lite, jamb extension, head/seat board, and standard or specified anchors, trim and attachments

## Ultimate Casement Polygon (Stationary Units only) units complete with glazing, weather strip, grilles-between-the-glass, simulated divided lite, jamb extension, and standard or specified anchors, trim, and attachments

## Ultimate Casement Venting Picture unit capable of opening for ventilation complete with hardware, glazing, weather strip, insect screen, grilles-between-glass, simulated divided lite, jamb extension, and standard or specified anchors, trim, and attachments

## Ultimate Casement/Awning Narrow Frame Crank Out: Operators, Stationary and Picture units complete with hardware, glazing, weather strip, insect screen, removable screen, grilles-between-the-glass, simulated divided lite, jamb extension, and standard or specified anchors, trim, and attachments

## Ultimate Casement Narrow Frame Polygon (Stationary Units only) units complete with glazing, weather strip, grilles-between-the-glass, simulated divided lite, jamb extension, and standard or specified anchors, trim, and attachments

# Construction Specification Institute (CSI) MasterFormat Numbers and Titles

## Section 01 33 00 – Submittal Procedures; Shop Drawings, Product Data, and Samples

## Section 01 62 00 – Product Options

## Section 01 65 00 – Product Delivery

## Section 01 66 00 – Storage and Handling Requirements

## Section 01 71 00 – Examination and Preparation

## Section 01 73 00 - Execution

## Section 01 74 00 – Cleaning and Waste Management

## Section 01 76 00 – Protecting Installed Construction

## Section 06 22 00 – Millwork: Wood trim other than furnished by the window manufacturer

## Section 07 92 00 – Joint Sealant: Sill sealant and perimeter caulking

## Section 09 90 00 – Painting and Coatings: Paint and stain other than factory applied finish

# References

## American Society for Testing Materials (ASTM):

### E283: Standard Test Method for Rate of Air Leakage through Exterior Windows, Curtain Walls, and Doors

### E330: Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Door by Uniform Static Air Pressure Difference

### E547: Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Cyclic Static Air Pressure Differential

### E2112: Standard Practice for Installation of Exterior Windows, Doors, and Skylights

### E2190: Specification for Sealed Insulated Glass Units

### C1036: Standard Specification for Flat Glass

### F2090: Standard Specifications for Windows Fall Prevention Devices with Emergency Escape (egress) Release Mechanisms

## American Architectural Manufacturer’s Association/Window and Door Manufacturer’s Association (AAMA/WDMA/CSA):

### AAMA/WDMA/CSA 101/I.S.2/A440-05 Standard/Specification for Window, Skylights, and Doors

### AAMA/WDMA/CSA 101/I.S.2/A440-08, NAFS – North American Fenestration Standard/Specification for Windows, Doors, and Skylights

### AAMA/WDMA/CSA 101/I.S.2/A440-11, NAFS 2011 – Northern American Fenestration Standard/Specification for Windows, Doors, and Skylights

## WDMA I.S.4: Industry Standard for Water Repellant Preservative Treatment for Millwork

## Window and Door Manufacturer’s Association (WDMA): 101/I.S.2 WDMA Hallmark Certification Program

## Sealed Insulating Glass Manufacturer’s Association/Insulating Glass Certification Council (SIGMA/IGCC)

## American Architectural Manufacturer’s Association (AAMA): 2605: Voluntary Specification for High-Performance Organic Coatings on Architectural Extrusions and Panels

## National Fenestration Rating Council (NFRC):

### 101: Procedure for Determining Fenestration Product thermal Properties

### 200: Procedure for Determining Solar Heat Gain Coefficients at Normal Incidence

# Submittals

## Shop Drawings: Submit shop drawings under the provision of CSI MasterFormat Section 01 33 00.

## Product Data: Submit product data for certified options under provision of CSI MasterFormat Section 01 33 00. Product performance rating information may be provided via quote, performance rating summary (NFRC Data), or certified performance grade summary (WDMA Hallmark data).

## Samples:

1. Submit corner section under provision of CSI MasterFormat Section 01 33 00.

2. Specified performance and design requirements under provisions of CSI MasterFormat Section 01 33 00.

# Quality Assurance

## Requirements: consult local code for IBC [International Building Code] and IRC [International Residential Code] adoption year and pertinent revisions for information on:

### Egress, emergency escape, and rescue requirements

### Basement window requirements

### Windows fall prevention and/or window opening control device requirements

# Delivery

## Comply with provisions of CSI MasterFormat Section 01 65 00

## Deliver in original packaging and protect from weather

# Storage and Handling

## Prime and seal wood surfaces, including to be concealed by wall construction, if more than thirty (30) days will expire between delivery and installation

## Store window units in an upright position in a clean and dry storage area above ground to protect from the weather under the provision of CSI MasterFormat Section 01660

# Warranty

# **Complete and current warranty information is available at marvin.com/warranty. The following summary is subject to the terms, conditions, limitations, and exclusions set forth in the Marvin Windows and Door Limited Warranty and Products in Coastal Environments Limited Warranty Supplement:**

## 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.

## 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.

## 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.

## 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

# Manufactured Units

## Description: Factory-assembled Ultimate Casement/Awning, operating exterior swing window on Casement and a top pivoting awning (stationary or picture units) manufactured by Marvin Windows and Doors, Warroad, Minnesota.

## Description: Factory-assembled Ultimate Casement/Awning Narrow Frame, operating exterior swing window on Casement and a top pivoting awning (stationary or picture units) as manufactured by Marvin Windows and Doors, Warroad, Minnesota.

## Description: Factory-assembled Ultimate Casement Polygon (stationary only) manufactured by Marvin Windows and Doors, Warroad, Minnesota.

## Description: Factory-assembled Ultimate Casement Narrow Frame Polygon (stationary only) manufactured by Marvin Windows and Doors, Warroad, Minnesota.

## Description: Factory-assembled Ultimate Casement Venting Picture Unit manufactured by Marvin Windows and Doors, Warroad, Minnesota.

## Description: Factory-assembled Ultimate Casement Bow Assemblies manufactured by Marvin Windows and Doors, Warroad, Minnesota.

### Available in 3, 4, 5, and 6 wide assemblies

### 6-degree angle

### With and w/out head and seat board

## Description: Factory-assembled Ultimate Casement Bay Assemblies manufactured by Marvin Windows and Doors, Warroad, Minnesota.

### Available 30 degree, 45 degrees, and 90 degree

### Optional retrofit square jamb return – crank out units only

### With and w/out head and seat board

# Frame Description

## Interior: Non-Finger-Jointed Pine or finger-jointed core with non-finger-jointed Pine veneer; optional non-finger-jointed Douglas Fir or finger-jointed core with non-finger-jointed 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.

### Kiln-dried to moisture content no greater than twelve (12) percent at the time of fabrication

### Water repellant preservative treated in accordance with WDMA I.S.4.

## Frame exterior aluminum clad with 0.050 inches (1.3mm) thick extruded aluminum

## Frame thickness: 1 3/16” (30mm)

## Frame depths for full-frame units have 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.

## Frame depth for replacement frame units have an overall 3 ¼” jamb (83mm) for replacement application and 2 3/16” (56mm) jamb depth from the nailing fin plane to the interior face of the frame for new construction

## Frame bevel: Standard is no bevel; optional available are 8 degrees and 14 degrees bevel (Narrow Frame frame only)

## In-Sash Casement Polygon: minimum frame angle15°, minimum short leg of Rough Opening 6” (152mm)

# Sash Description

## Interior: Non-Finger-Jointed Pine or finger-jointed core with non-finger-jointed Pine veneer; optional non-finger-jointed Douglas Fir or finger-jointed core with non-finger-jointed 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.

### Kiln-dried to moisture content no greater than twelve (12) percent at the time of fabrication

### Water repellant preservative treated in accordance with WDMA I.S.4

## Sash exterior aluminum clad with 0.050” (1.3mm) thick extruded aluminum

## Sash thickness: 1 5/8” (41mm) and 1 7/8” (48mm) for full-frame units. The narrow-frame units will have a sash thickness of 1 5/8” (41mm).

## Stiles and Rails: 2 1/16” (52mm)

## Sash Option: Optional tall bottom rail: 3 9/16” (90mm)

## Glazing Profiles:

### Interior Glazing Profile:

### Standard: Ogee

### Optional: Square

### Exterior Glazing Profile:

### Standard: Putty

### Optional: Square (applies to rectangle and polygon units. Option not offered on round top and full radius units.)

# Glazing

## Select quality complying with ASTM C 1036. Insulating glass SIGMA/IGCC certified to performance level CBA when tested in accordance with ASTM E 2190

## Glazing method: Insulating glass

## Glazing seal: Silicone bedding at interior and exterior

## Insulating glass will be altitude adjusted with capillary tubes for higher elevations. Argon gas is not available for elevations that require capillary tubes

## Dual-pane thickness: 3/4” or 1”; Tri-pane thickness: 1”

## Glass fill: Air with capillary tubes, Argon.

## Glass Type: Clear, Bronze, Gray, Reflective Bronze, Tempered, Obscure, Laminated, Low E2, Low E3, Low E1, Low E2/ERS, Low E3/ERS

## Tripane glass (TG) Tripane Low E3/E1/ERS, Tripane E2/E1/ERS: Tripane Low E1, Tripane Low E2, Tripane Low E3.

## This glass type is dependent on sash thickness and availability. Consult ADM or OMS for availability.

# Finish

## Exterior: Aluminum clad. Fluoropolymer modified acrylic topcoat over a primer. Meets or exceeds AAMA 2605 requirements.

### 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)

### Custom colors: Contact your Marvin representative

## Interior Finish options:

### Prime: Factory-applied water-borne acrylic primer. Meets WDMA TM-11 requirements.

### Painted Interior Finish. Factory-applied water-borne acrylic enamel. Available on Pine product only. Available in White or Designer Black. Meets WDMA TM-14 requirements.

### Factory-applied water-borne acrylic enamel clear coat. Applied on two coats with light sanding between coats. Available on Pine, Mahogany, Mixed Grain Douglas Fir, Vertical Grain Douglas Fir, Cherry, White Oak. Meets WDMA TM-14 requirements.

### 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, Mixed Grain Douglas Fir, Vertical Grain Douglas Fir, Cherry, White Oak. Colors available: Wheat, Honey, Hazelnut, Leather, Cabernet, and Espresso. Meets WDMA TM-14 requirements.

# Hardware

## Casement operating hardware:

### Locks: Multi-point sequential concealed locking system in the jamb opposite the hinge side for casement units. Lock handles are removable, non-handed, and are available in the same finishes as the handles. Standard tie bars, cams, and keepers – steel coated with E-Gard ™. The keeper features a roller to reduce average lock force and does not easily disengage with the cam even under severe loading. Stainless steel packages are available for coastal applications.

### Handles: Standard operating handle is a folding handle, zinc painted with the standard folding cover being molded plastic. Available colors: standard is Satin Taupe (painted), White (painted), Bronze (painted), Matte Black (painted), Satin Chrome (plated), Satin Nickel (plated), Oil Rubbed Bronze (plated), Brass (plated), Antique Brass (plated)

### Hinges: One at the sill to the bottom rail and the head jamb to the top rail. Hinges are steel coated with E-Gard™. The hinge track is stainless steel. Unit with a frame OM of 20 inches (508mm) and greater use an 18-inch (457mm) wash/egress hinge to allow the sash to slide across the frame opening, which causes the sash exterior to rotate towards the user for easy washability. Units under a frame OM of 20 inches (508 mm) width use a standard 2 bar hinge, which will position the sash when fully open to 90degrees for the user to wash but does not include the feature of sliding the sash across the opening and rotating the exterior towards the user.

### Optional Factory Installed Window Opening Control Device (WOCD): The standard operation of the WOCD limits the operation of the sash to an opening of less than 4” (102mm). The sash arm detaches from the lock housing by a two-step function actuation to allow the normal operation of the unit. The WOCD re-engages when the unit is fully closed. WOCD is Coastal-compliant. Hardware meets ASTM F2090-17.

### Minimum frame OSM 20” (508mm) x 19 1/8” (486mm);

### Maximum frame

### 44” (1118mm) width

### If the width is greater than 36” (914mm) or less than 44” (1118), then 92” (2337mm) maximum height

### If the width is less than or equal to 36” (914), then 96 1/8” (2442mm).

### The WOCD hardware is handed. The Lock Housing and Sash Arm are comprised of multiple stainless steel, injection molded components, and a single stainless-steel spring. The Lock Housing fits within a pocket of the jamb. The Sash Arm will fit within a pocket between the jamb/sill cover and the locking hardware.

## Awning hardware:

### Locks: Uses a multipoint sequential concealed locking system in both jambs. Lock handles are removable, non-handed, and are available in the same finishes as the handles. Standard tie bars and cams – steel coated with E-Gard™. Standard keepers – steel coated with E-Gard ™. The keeper features a roller to reduce average lock force and dies not easily disengage with the cam even under severe loading.

### Handles: Standard operating handle is a folding handle, zinc painted with the standard folding cover being molded plastic. Available colors: standard is Satin Taupe (painted), White (painted), Bronze (painted), Matte Black (painted), Satin Chrome (plated), Satin Nickel (plated), Oil Rubbed Bronze (plated), Brass (plated), Antique Brass (plated)

### Hinges: Two hinges that connect the stiles of the sash to the jambs of the frame. Hinges are steel coated with E-Gard ™, and the hinge track is stainless steel. Hinges are designed to support up to a 210 lb sash.

### Optional: Op-O-Lock Hardware: Requires the folding handle. The minimum frame OM width is 28” (711mm). A minimum frame OM height is 15 1/8” (384mm). Maximum frame OM width is 72” (1829mm). Maximum frame OM height is 47 1/8” (1197mm).

### Optional: Power Drive: This is an optional remote control operating system that is applied in the field. If an op-o-lock is installed on the awning, the Power Drive will also engage the cam locks. If the op-o-lock is not used, the sash locks must be manually engaged. Power Drive is available on Awnings with a frame width of 16” or wider. Available colors: Satin Taupe, White, Bronze.

## Venting Picture hardware:

### Hardware that operates and locks the sash operates simultaneously on widths less than 36” (914mm) and independently on widths greater than 36” (914mm). Sliding mechanisms attached to the frame operate the hinges, which projects the sash outward approximately 2.25” parallel to the frame. Unit is operated using two (2) handles, located one on each jamb. Venting Picture window hardware will not allow this unit to be used for egress applications. Optional tall handle location available on units with OM height of 77 18” (1959) or greater, places center of handle 36” (914) from the bottom of the unit.

### On larger units, a stainless steel structural cable is used to achieve structural DP.

### The lock handle and base are painted zinc (Satin Taupe, White, and Bronze). Plated finishes are (Satin chrome, Antique Brass, Oil-rubbed Bronze, Satin Nickel, and Polished Chrome).

# Weather Strip

## Weather strip at the frame is a hollow-foamed material bent around a 90-degree corner to allow for seamless corner joints

### Color: Beige

## Sash weather strip bulb-shaped glass-filled material

### Color: White, beige, or black

# Jamb Extension

## Jamb extensions are available for various wall thickness factory-applied up to a 12 (305mm) wide

## Finish: Match interior frame finish

# Insect Screen

## Crank Out

### Aluminum frame finish is available in Satin, Bronze, Stone White, or Ebony

### Screen Frame

1. Window Frame Height less than or equal to 54 ½” Aluminum Screen Frame. Option: Extruded Aluminum Screen Frame
2. Window Frame Height greater than 54 ½” Extruded Screen Frame. Option: None.

### Screen mesh: Standard is Marvin Bright ViewTM. Optional Charcoal Aluminum Wire, Black Aluminum Wire, Bright Bronze Aluminum Wire, Bright Aluminum Wire

### Optional Wood Screen Surround with Marvin Bright View™. Species will match unit species

## Venting Picture Window

### Silver-gray fiberglass screen mesh encasing a reticulated foam bulb which is retained by a reticulated foam bulb which is retained by a vinyl carrier and fastened to the sash with an adhesive tape. The position of the screen bulb places it in contact with the frame to block insects and large airborne particles while still allowing airflow.

# Simulated Divided Lites (SDL)

## 5/8” (16mm) wide, 7/8” (22mm) wide, 1 1/8” (29mm) wide, 1 15/16” (49mm), 2 13/32” (61mm) wide with or w/out internal spacer bar

## Exterior muntins: 0.055” (1.4mm) thick extruded aluminum

## Interior muntins: Pine, Douglas Fir, White Oak, Cherry, Mahogany, Vertical Grain Douglas Fir

## Muntins adhere to glass with closed-cell copolymer acrylic foam tape

## SDL Profiles:

### Interior SDL Profile:

### Standard: Ogee

### Optional: Square

### Exterior SDL Profile:

### Standard: Putty

### Optional: Square (applies to rectangle and polygon units. Option not offered on round top and full radius units.)

## Patterns: Rectangular, diamond, custom lite cut

## Finish – exterior matches exterior aluminum clad colors, interior matches’ interior wood species and color

# Grilles-Between-the–Glass (GBG)

## 23/32” (18mm) contoured aluminum bar

### Exterior Colors: exterior matches exterior aluminum-clad 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

### Interior Colors: Stone White, Bronze, Pebble Gray, Sierra, White, Ebony (only available with Ebony exterior)

## Optional flat aluminum spacer bar. Contact your Marvin representative.

## Pattern: Rectangular, Cottage, Custom lite layout

# Accessories and Trim

## Installation Accessories:

### Factory-installed vinyl nailing/drip cap

### Installation brackets: 6 3/8” (162mm), 9 3/8” (283mm), 15 3/8” (390mm)

### Masonry brackets: 6” (152mm), 10” (254mm)

## Installation Kit: (Venting Picture Window)

### Units will be shipped from the factory with (2) jamb jack screws and up to 24 - #8 x3” square drive screws. The jamb jack and screws will use a number two (2) square bit. The jamb jacks shall be placed at the center span of the jambs to allow for fine-tuning the installation.

## Aluminum Extrusions:

### Profile: Brick mold casing, flat casing, various special casing, frame expander, jamb extender, mullion cover, mullion expander, subsill, subsill end cap, and lineal cap

### Finish: Fluoropolymer modified acrylic topcoat applied over primer. Meets or exceeds AAMA 2605 requirements.

### Available in all exterior aluminum clad colors

# Lock Status Sensor (Optional)

## Lock Status Sensor

### Unit is factory-prepared for an integrated lock status sensor system. Sensor and Magnet mounted inside the boundaries of the overall frame size. Refer to **Lock Status Sensor Installation Instructions**.

1. Lock Status Sensor may be wired or wireless.
	1. For the wired option, check with local codes on potential contractor requirements for low voltage networking connections.
	2. Wireless option available. Requires purchase of secondary transmitter for operation. Marvin will prep for this option.

### For CUCA, CURCA, the **sensor** will always be attached to the top of the tie bar on the locking/jamb side.

1. For CUAWN, CURAWN, the **sensor** will always be attached to the top of the tie bar on the right-handed locking jamb side (from the exterior).
2. **Actuator** (magnet) for the sensor is always located on the same side as the sensor and located on the stile of the operating sash.

## Lock Status Sensor Option Includes:

### Sensor - Reed

### Actuator – Neodymium Magnet

### Actuator Cover (Casement and Double Only)

* 1. Colors: Black: Bare, stain and designer black; White: PIF-White and Prime

# Part 3 Execution

# Examination

## Verification of Condition: Before installation, verify openings are plumb, square, and of proper dimensions, as required in CSI MasterFormat Section 01 71 00. Report frame defects or unsuitable conditions to the General Contractor before proceeding.

## Acceptance of Condition: Beginning on installation confirms acceptance of existing conditions.

# Installation

## Comply with CSI MasterFormat Section 01 73 00.

## Assemble and install window/door unit(s) according to manufacturer’s instruction and review shop drawing.

## Install sealant and related backing materials at the perimeter of the unit or assembly in accordance with CSI MasterFormat Section 07 92 00 Joint Sealants. Do not use expansive foam sealant.

## Install accessory items as required.

## Use finish nails to apply wood trim and mouldings.

# Field Quality Control

## Remove visible labels and adhesive residue according to the manufacturer’s instructions.

## 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).

## 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.

# Cleaning

## Remove visible labels and adhesive residue according to the manufacturer’s instructions.

## Leave windows and glass in a clean condition. Final cleaning as required in Section 01 74 00.

# Protecting Installed Construction

## Comply with CSI MasterFormat Section 07 76 00.

## Protecting windows from damage by chemicals, solvents, paint, or other construction operations that may cause damage.

End of Section