#### Part 1 General

# Section Includes

## Elevate® Double Hung window complete with hardware, glazing, weather strip, insect screen, grilles-between-the-glass, jamb extension, and standard or specified anchors, trim and attachments

## Elevate® Double Hung bow, bay windows complete with hardware, glazing, weather strip, insect screen, grilles-between-the-glass, simulated divided lite, jamb extension, head/seat board, and standard or specified anchors, trim and attachments.

# Construction Specification Institute (CSI) MasterFormat Numbers and Titles

1. Section 01 33 00 – Submittal Procedures: Shop Drawings, Product Data, and Samples
2. Section 01 62 00 – Product Options
3. Section 01 25 15 – Product Substitution Procedures
4. Section 01 65 00 – Product Delivery
5. Section 01 66 00 – Product Storage and Handling Requirements
6. Section 01 71 00 – Examination and Preparation
7. Section 01 73 00 - Execution
8. Section 01 74 00 – Cleaning and Waste Management
9. Section 01 75 00 – Starting and Adjusting
10. Section 01 76 00 – Protecting Installed Construction
11. Section 06 22 00 – Millwork: Wood trim other than furnished by door and frame manufacturer
12. Section 07 92 00 – Joint Sealants: Sill sealant and perimeter caulking
13. Section 08 71 00 – Door Hardware: Hardware other than furnished by door and frame manufacturer
14. Section 09 90 00 – Paints and Coatings: Paint and stain other than finish
    1. **References**

## ASTM, International:

1. E283: Standard Test Method for Determining Rate of Air Leakage through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
2. E330: Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights, and Curtain Walls by Uniform Static Air Pressure Difference
3. E547: Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls, by Cyclic Air Pressure Difference
4. E2190: Standard Specification for Insulating Glass Unit Performance and Evaluation
5. C1036: Standard Specification for Flat Glass
6. E2112: Standard Practice for Installation of Exterior Windows, Doors, and Skylights
7. North American Fenestration Standard (NAFS) - American Architectural Manufacturer’s Association/Window and Door Manufacturer’s Association/Canadian Standards Association (AAMA/WDMA/CSA 101/I.S.2/A440):
8. AAMA/WDMA/CSA 101/I.S.2/A440-17: NAFS: North American Fenestration, Standard/Specification for windows, doors, and skylights
9. Window and Door Manufacturers Association (WDMA)
10. WDMA I.S.4: Industry Standard for Water Repellent Preservative Treatment for Millwork
11. WDMA I.S.2: Hallmark Certification Program
12. Insulating Glass Certification Council (IGCC) and Fenestration Glazing Industry Alliance (FGIA) Glass Products Council (GPC)
13. Fenestration Glazing Industry Alliance (FGIA) – note: AAMA combined with IGMA and formed FGIA as of 08/01/2019
14. AAMA 2605: Voluntary Specification for High Performance Organic Coatings on Architectural Extrusions and Panels
15. National Fenestration Rating Council (NFRC):
16. NFRC 101: Procedure for Determining Fenestration Product Thermal Properties
17. NFRC 200: Procedure for Determining Solar Heat Gain Coefficients at Normal Incidence
18. Window Covering
19. WCMA A100.0: American National Standard for Safety of Window Covering Products

# System Description

## Design and Performance Requirements:

1. Missile Impact at Missile Level D complies with ASTM E1886-05, and ASTM E1996-05.
2. Impact Pressure Cycling at +55/-65 psf, complies with ASTM E1886-05,ASTM E1996-05.
3. Forced Entry Resistance, complies with ASTM F588.

# Submittals

## Shop Drawings: Submit shop drawings under 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 23.

## Quality Control Submittals: Certificates: submit manufacturer’s certification indicating compliance with specified performance and design requirement under provision of CSI MasterFormat Section 01 33 23.

# Quality Assurance

## 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.

# 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 weather under provision of CSI MasterFormat Section 01660.

# Warranty

#### **The following limited warranty is subject to conditions and exclusions. There are certain conditions or applications over which Marvin has no control. Defect or problems as a result of such conditions or applications are not the responsibility of Marvin. For a more complete description of the Marvin limited warranty, refer to the complete and current warranty information available at marvin.com/support/warranty.**

## 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.

## Hardware another 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: Ultrex® Double Hung and related stationary or picture units as manufactured by Marvin Windows and Doors, Fargo, North Dakota.

## Description: Ultrex® Double Hung Bay, Bow unit as manufactured by Marvin Windows and Doors, Fargo North Dakota.

# Frame Description

## Interior: Clear pine interior surfaces.

1. Kiln-dried to moisture no greater than twelve (12) percent at the time of fabrication.
2. Water repellant preservative treated in accordance with WDMA I.S.4.

## Exterior: Pultruded reinforced fiberglass (Ultrex®), 0.075” (2mm) thick.

## Frame Width: 4 9/16” (116mm).

# Sash Description

## Clear pine interior surfaces

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.

## Exterior: Pultruded reinforced fiberglass (Ultrex®), 0.075” (2mm) thick.

## Sash Options:

### 1. Equal or Unequal Sash.

### 2. Cottage Style: Sash divided 2/5 over 3/5.

### Reverse Cottage Style: Sash divided 3/5 over 2/5.

## Composite sash thickness: 1 9/16” (40mm).

## Operating sash tilt to interior for cleaning or removal.

# Glazing

## Select quality complying with ASTM C1036. Insulating glass SIGMA/ICC certified to performance level CBA when tested in accordance with ASTM E2190. STC/OITC ratings are certified to the level in accordance with ASTM E90-09.

## Glazing method: Insulating glass

## Gas Fill: Air or Argon

## Glass type: Low E1, E2, E3, E3/ERS

## Dual-pane insulating glass thickness: 11/16”

## Glass type option: Obscure Glass or California Fire Glass (Annealed exterior and tempered interior glazing configuration), Rain Glass, Glue Chip, Narrow Reed, Reed, Frost, Bronze Tint, Gray Tint, Green Tint.

## Glazing seal: Silicone bedding at exterior and interior

## Glazing Option: STC/OITC upgrade

## Optional Impact glazing for winds zone 3. Glass is laminated Low E2orLow E3with Argon consisting of annealed or tempered glass to the exterior and laminated glass to the interior. The laminated glass is made up of two pieces of glass with either SGP or PVB laminate layer in between. The interior and exterior glazing compound is silicone, in a sandwich style glazing system.

# Certified Mulling for Standard Units

1. Directional mull limits: 5 units wide by 1 unit high; Rough Opening not to exceed 113 ½ x 68 ¼ inches (2882mm x 1733mm).
2. Directional mull limits: 1 unit wide by 5 units high; Rough Opening not to exceed 62 ½ x 92 inches (1587mm x 2336mm)

# Certified Mulling for Space Mulling for Standard Units

1. Directional mull limits (Vertical ½” Space Mull): 5 units wide by 1 unit high: Rough Opening not to exceed 113 ½ x 76 ¼ inches (2883 mm x 1937 mm)
2. Directional mull limits (Vertical ½” Space Mull): 5 units wide by 1 unit high: Rough Opening not to exceed 108 ½ x 84 ¼ inches (2756 mm x 2140 mm)
3. Directional mull limits (Horizontal ½” Space Mull): 1 unit wide by 5 units high: Rough Opening not to exceed 62 ½ x 92 inches (1588 mm x 2337 mm)
4. Directional mull limits (Vertical Continuous ½ Space Mull, Optional Horizontal Space Mull): 3 units wide by 5 units high: Rough Opening not to exceed 84 x 92 inches (2134 mm x 2337 mm)
5. Directional mull limits (Horizontal Continuous ½ Space Mull): 3 units wide by 5 units high: Rough Opening not to exceed 62 ½ x 83 ½ inches (1588 mm x 2121 mm)

# Certified Mulling for Impact Units

## Directional mull limits 1H or 1W only. Maximum span for vertical mull is 75 3/4” (1924mm)

## Directional mull limits 2H or 2W only. Maximum span for horizontal mull is 62” (1575mm)

# Finish

## Exterior: Pultruded Fiberglass. Factory baked on acrylic urethane. Meets AAMA 624-10 requirements.

1. Color: Stone White, Pebble Gray, Bronze, Cashmere, Gunmetal, Ebony

## Interior:

1. Treated bare wood
2. White, clear interior, or designer black interior factory finishes

# Hardware

## Balance System: Coil spring block and tackle with nylon cord and glass filled nylon shoe and zinc locking clutch.

## Lock: High pressure zinc die-cast cam lock and keeper. Finish: Phosphate coated and electrostatically painted.

1. Standard Color: Almond Frost, White.
2. Optional Color: Bright Brass, Satin Nickel, Oil Rubbed Bronze, Matte Black.

## Tilt latches: Spring loaded latches for release of sash located at check rail.

1. Standard Color: Almond Frost, White.
2. Optional Color: Bright Brass, Satin Nickel, Oil Rubbed Bronze, Black.

## Factory-Installed Window Opening Control Device for operating units per ASTM F2090-17: a system consisting of an acetal lever housed in an acetal shell on each stile of the top sash.

1. Available on all sizes.
2. Color: White, Beige, Black.

# Weather Strip

## At Bottom Sash: Rigid color matched vinyl with a hollow vinyl weather strip; interfaces against the Ultrex sill and jamb weather strip

1. Color: Black.

## Jamb Weather Strip: Robust skin covered foam weather strip is used to seal the double hung jamb. It is inserted into to a rigid vinyl jamb carrier.

1. Color: Beige, White, Black.

## Blind Stop: vinyl with a flexible leaf seal to seal between the header and the upper sash.

## Foam PVC gasket between the jamb and sill.

## At Interlock: Rigid Glass Filled Polypropylene with flexible hollow bulb.

1. Color: Beige, Black, White.

## Reduced visible beige at the exterior bottom rail.

# Interior Jamb Cap

## Rigid PVC cover with a color matched weatherable capping; inserts into jamb liners and head jamb liner to hide exposed Ultrex.

1. Colors: White, Designer Black
2. Only used on units with a white or designer black interior finish.

# Jamb Extension

1. Furnish jamb extension: 6 9/16 inch (167mm) or 6 13/16 inch (173mm) factory-installed
2. Optional jamb extension: 4 11/16 inch (119mm), 4 13/16 inch (122mm), or 5 1/16 inch (129mm) – 8 9/16 inch (217mm) shipped loose.
3. Finish: White, Clear Lacquer, Designer Black

# Insect Screen

## Factory-installed full screen.

1. Screen mesh: 18 by 16 charcoal fiberglass (non-corrosive)

## Factory-installed half screen.

1. Screen mesh: 18 by 16 charcoal fiberglass (non-corrosive)
2. Rolled form aluminum frame.
3. Finish: White, Pebble Gray, Bronze, Cashmere, Gunmetal, or Ebony

# Simulated Divided Lites (SDL)

## 7/8” (22mm) wide. Available with optional spacer bar.

1. Exterior muntins: Ultrex finished to color match exterior
2. Interior muntins: Bare pine wood or optional white, clear interior, or designer black interior finishes
3. Patterns:

### Rectangular

### 9 lite Prairie cut with 4” DLO corners

### 6 lite top or bottom Prairie cut with 4” DLO corners

### 6 lite left or right Prairie cut with 4” DLO corners

### Cottage style up to 2H with specified DLO heights (4” min)

### Size limitations may apply to Prairie and Cottage lite cut availability

1. Simulated Check rail option: 2 11/32” (60mm). Available with optional spacer bars

### Picture Units Only

# Grilles-Between-the–Glass (GBG)

## Manufactured from aluminum in a 23/32” (18mm) wide contoured profile placed between the two panes of glass.

1. Colors:

### Interior: White, Bronze, Black

### Exterior: White, Pebble Gray, Bronze, Cashmere, Gunmetal, or Ebony

1. Patterns:

### Rectangular

### 9 lite Prairie cut with 4” DLO corners

### 6 lite top or bottom Prairie cut with 4” DLO corners

### 6 lite left or right Prairie cut with 4” DLO corners

### Cottage style up to 2H with specified DLO height (3” min)

### Size limitations may apply to Prairie and Cottage lite cut availability

1. Not available for Impact glazed units

# Accessories and Trim

## Exterior Casing:

1. Non-integral to the unit. Fastened to the exterior wall with barb and kerf.
2. 2” (51mm) Brick Mould available as a full surround or with Sill Nosing.
3. 3 ½” (89mm) Flat casing available as a full surround or with Sill Nosing. Also available with 1” (25mm) Ranch style sill and header overhang.
4. Color: Stone White, Pebble Gray, Bronze, Cashmere, Gunmetal, Ebony.

## Installation Accessories:

1. Factory-installed vinyl nailing fin/drip cap at head, sill and side jambs.
2. Installation brackets: Brackets for 4 9/16” (166mm), 6 9/16” (167mm) jambs.
3. Mullion kit: Standard mullion kit for field assembly of related units available in horizontal, vertical, round top over double hung and 2-wide and/or 2-high configurations. Kits include: Instructions, aluminum pins, filler blocks, wood mullion tie, sealant foam tape, interior mullion trim, mull tee, related screws and nailing fin connectors.
4. Structural mullion kit: Structural mullion kit for field assembly or related units available in horizontal, vertical, round top over double hung and 2-wide and/or 2-high configurations. Kit includes: Instructions, reinforcement member, aluminum pins, filler blocks, wood mullion tie, sealant foam tape, interior mullion trim, mull tee, related screws, nailing fin connectors and structural brackets
5. ½ Space Mullion kit: Structural mullion kit with ½” spacing for field assembly or related units available in horizontal, vertical, and multi-wide, multi-high configurations. Kit includes: mulling pins, mull reinforcement, mull support, weather strip, plugs, exterior mull cover, interior mull trim, brackets, drip cap and hardware.
6. Installation clips standard with nailing fin on impact glazed windows.

#### 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 reviewed shop drawing.

## Install sealant and related backing materials at perimeter of 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 manufacturer’s instruction.

## 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 manufacturer’s instruction.

## Leave windows and glass in a clean condition. Final cleaning as required in CSI MasterFormat 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