

SECTION 08541

SINGLE HUNG WINDOWS

Part 1 General

1.1 Section Includes

- A. All Single Hung window complete with hardware, glazing, weather strip, insect screen, grilles-between-the-glass, jamb extension, sheet rock return, j-channel, and standard or specified anchors, trim and attachments.

1.2 References

- A. American Society for Testing and Materials (ASTM):
 - 1. C1036: Standard Specification for Flat Glass
 - 2. E90-09: Standard Test Method for Laboratory Measurement of airborne Sound Transmission Loss of Building Partitions and Elements.
 - 3. E 283: Standard Test Method for Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors.
 - 4. E 330: Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Door by Uniform Static Air Pressure Difference.
 - 5. E 547: Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Cyclic Static Air Pressure Differential.
 - 6. E 2190: Standard Specification for Insulating Glass Unit Performance Evaluation.
 - 7. F2090-10: Standard Specification for Window Fall Prevention Devices with Emergency Escape (Egress) Release Mechanisms.
 - 8. E 2068: Standard Test Method to Determine the Operating and Breakaway Forces of Sliding Windows and Doors.
- B. Insulating Glass Manufacturer's Alliance/Insulating Glass Certification Council (IGMA/IGCC)
- C. American Architectural Manufacturer's Association/Window and Door Manufacturer's Association/Canadian Standards Association (AAMA/WDMA/CSA):

1. AAMA/WDMA/CSA 101/I.S.2/A440-11: North American Fenestration Standard/Specification for windows, doors, and skylights.
 2. AAMA/WDMA/CSA 101/I.S.2/A440-08: North American Fenestration Standard/Specification for windows, doors, and skylights.
- D. Window and Door Manufacturer's Association (WDMA): Hallmark Certification Program.
- E. American Architectural Manufacturer's Association (AAMA): 624-10: Voluntary Specification, Performance Requirements and Test Procedures for Organic Coatings on Fiber Reinforced Thermoset Profiles.
- F. National Fenestration Rating Council (NFRC):
1. 100: Procedures for Determining Fenestration Product U-factors
 2. 200: Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence

1.3 Submittals

- A. Shop Drawings: Submit shop drawings.
- B. Product Data: Submit catalog data.
- C. Samples:
 1. Submit corner section.
 2. Specified performance and design requirements.
- D. Quality Control Submittals: Certificates: submit manufacturer's certification indicating compliance with specified performance and design requirement.

1.4 Delivery

- A. Comply with provisions of this specification
- B. Deliver in original packaging and protect from weather

1.5 Storage and Handling

- A. Store window units in an upright position in a clean and dry storage area above ground to protect from weather under provisions of this specification.

1.6 Warranty

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

- 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. 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

1.7 Manufacturers

- C. Acceptable Manufacturer: All Ultrex® Single Hung (and related stationary or picture units) as manufactured by Integrity Windows and Doors, Roanoke, Virginia.
- D. Subject to compliance with requirements, provide products by Marvin or comparable product by one of the following:
 - 1. Pella Impervia
 - 2. Anderson Fibrex

1.8 Frame Description

- A. Interior: Pultruded reinforced fiberglass, 0.070 inch (2mm) thick.
- B. Frame width: 3 3/32 inch (79mm)
- C. Jamb depth: 2 inch (51mm)
- A. Frame Expander accessory is an insert kit shipped as ready-to-install.
 - 1. Insert kit includes four fabricated frame expander components, including head-jamb, sill and both jamb components.
 - 2. Included in both 1" and 3" frame expander options.

1.9 Sash/Panel Description

- A. Pultruded reinforced fiberglass, 0.070 inch (2mm) thick
- B. Composite sash thickness: 15/16 inch (24mm)
- C. Equal sash style. Cottage Style: Sash divided 2/5 over 3/5. Reverse Cottage Style: Sash divided 3/5 over 2/5.

1.10 Glazing

- A. Select quality complying with ASTM C 1036. Insulating glass SIGMA/IGCC when tested in accordance with ASTM E 2190. STC/OITC ratings are tested to the stated performance level in accordance with ASTM E 90-09.
- B. Glazing Method: 11/16 inch (17mm) insulating glass
- C. Glass Type: Low E1, E2, E3, or E3/ERS air or Argon gas
- D. Glass Type Option: Obscure Glass or California Fire Glass (Annealed exterior and tempered interior glazing configuration)
- E. Glazing Seal: Silicone bedding at exterior, interior has glazing boot
- F. Glazing Option: STC/OITC upgrade

1.11 Mulling

1.11.1 Standard Mulling

- A. Directional mull limits: 6 wide by 1 unit high; 114 by 78 (2896mm x 1981mm) inches
- B. Directional mull limits: 5 wide by 5 units high; 96 by 96 (2438mm x 2438mm) inches

1.11.2 Reinforced Mulling

- C. Directional mull limits: 6 wide by 1 unit high; 114 by 78 (2896mm x 1981mm) inches
- D. Directional mull limits: 5 wide by 5 units high; 96 by 96 (2438mm x 2438mm) inches

1.12 Finish

- A. Exterior: with a cross-head extruded acrylic organic coating system. Meets AAMA 624-10 requirements.

- B. Interior: with a cross-head extruded acrylic organic coating system. Meets AAMA 624-10 and 00022716 requirements.
- C. Color: Stone White exterior with Stone White interior, Pebble Gray exterior with Stone White interior, Bronze exterior with Stone White interior, Evergreen exterior with Stone White interior, Cashmere exterior with Stone White interior, Ebony exterior with Stone White interior.

1.13 Hardware

- A. Balance System: Coil spring block and tackle with nylon cord, glass filled nylon show, and zinc locking mechanism.
- B. Lock: High pressure zinc die-cast cam lock and keeper.
 - 1. Finish: Phosphate coated and electrostatically painted. Color: Stone White. Optional colors: Bright Brass, Satin Nickel, Oil Rubbed Bronze, Almond Frost.
 - 2. Two (2) locks installed on units greater than 30 inches
- C. Sash Lift: A contoured zinc die cast sash lift, Stone White in color.
- D. Tilt Latches: Ergonomic tilt latches attach to the upper corners of the bottom sash for easy tilting and sash removal.
- E. Sash Limiters: Available as a field applied option to limit sash travel. ABS material and beige in color. Applied in the balance tube channel.
- F. Factory Installed Window Opening Control Device for operating units per ASTM F2090-10: 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

1.14 Weather Strip

- A. Frame weather strip: combination hollow vinyl bulb and flexible wand
 - 1. Color: Beige
- B. Top Sash interlock: Rigid ABS with flexible Alcryn seals
 - 1. Color: Beige
- C. Stationary sash seal: foam tape

1. Color: Gray

1.15 Jamb Extension

- A. Standard 2 inch jambs. Optional factory-installed jamb extension: 4 9/16 inch (116mm) and 6 9/16 inch (167mm)

1.16 Insect Screen

- A. Factory-installed half screen
- B. Screen mesh, 18 by 16: Charcoal fiberglass. Pile weather strip on top rail of screen seals against top sash.
- C. Aluminum frame
 - 1. Color: Stone White, Pebble Gray, Bronze, Evergreen, Cashmere, Ebony
- D. Optional full screen available

1.17 Grilles-Between-the-Glass (GBG)

- A. 11/16 inch (18mm) contoured aluminum bar.
- B. Stone white interior, exterior color determined by frame color.
- C. Lite Cuts or Patterns:
 - 1. Rectangular and prairie lite cut. Prairie Lite pattern - six lite for single hung and nine lite for picture. Size limitations may apply to prairie lite cut availability.

1.18 Accessories and Trim

- A. Exterior Casing:
 - 1. Non-integral to the unit. Fastened to the exterior wall with barb and kerf.
 - 1. 2 inch Brick Mould available as a full surround or with sill nosing.
 - 2. 3 ½ inch Flat Casing available as a full surround or with sill nosing. Also available with 1 inch Ranch Style header and sill overhang.
 - 3. Colors: Stone White, Evergreen, Bronze, Pebble Gray, Cashmere, Ebony.
- B. Installation Accessories:
 - 1. Factory-installed vinyl nailing fin/drip cap at head, sill and side jambs.

1. Installation brackets for masonry applications.
2. Mullion kit: standard mullion kit for filed assembly of related units available in horizontal, vertical and 2-wide and/or 2-high configurations. Kit includes: Instruction, interior and exterior mull covers, mull plugs and brackets.
3. Sheet rock return
4. J-channel
5. Flush Fin
6. ¾ inch Receiver
7. Frame Expander (1inch or 3 inch option available)

Part 3 Execution

1.19 Examination

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

1.20 Installation

- A. Comply with provisions of this specification.
- 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 07920 Joint Sealants. Do not use expansive foam sealant.
- D. Install accessory items as required.
- E. Use finish nails to apply wood trim and mouldings.

1.21 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 under provisions of this specification.

1.22 Protecting Installed Construction

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

- 1. End of Section