



# Sun Vinyl 57 Series Double Hung

## SECTION 08565

### VINYL DOUBLE HUNG WINDOWS

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#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Factory-assembled vinyl double-hung windows
- B. Glass and glazing
- C. Weatherstripping, hardware, [insect screens,] [muntin bars].
- D. Anchorages, attachments and shims.

##### 1.02 RELATED SECTIONS

- A. Section [04200 – Unit Masonry]: Units in Masonry.
- B. Section [06100 – Rough Carpentry]: Framed openings.
- C. Section [07210 – Building Insulation]: Batt insulation at window perimeter.
- D. Section [07900 – Joint Sealers]: Perimeter Joint Sealant and Backer Rod.

##### 1.03 REFERENCES

- A. American Society for Testing and Materials (ASTM):
  - 1. ASTM C 1048-04 – Specification for Heat Treated Float Glass-Kind HS, Kind FT Coated & Uncoated.
  - 2. ASTM C 1036-01 – Specification for Flat Glass.
  - 3. ASTM E 1300-03 – Standard Practice for Determining Load Resistance of Glass in buildings.
  - 4. ASTM E 773 - Test Method for Seal Durability of Insulating Glass Units .
  - 5. ASTM E 774-97 – Specification for Seal Durability of Insulating Glass Units.
  - 6. ASTM E 283-04 - Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Difference Across the Specimen.
  - 7. ASTM E 330-02 -Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.
  - 8. ASTM E 547-00- Water Penetration of Exterior Windows, Curtain Walls and Doors by Cyclic Static Air Pressure Differential.
  - 9. ASTM F 588-04 – Measuring the Forced Entry Resistance of Window Assemblies, excluding glazing.
- B. American Architectural Manufacturers Association (AAMA):
  - 1. AAMA 701-00 & 702-00 –Combined Voluntary Specification for Pile Weatherstripping and Voluntary Specification for Replacement fenestration Weatherseals.
- C. National Fenestration Rating Council (NFRC):
  - 1. NFRC 100-2001 – Procedure for Determining Fenestration Product U-Factors.
  - 2. NFRC 200 – Procedure for Determining Fenestration Product Solar Heat Gain Coefficient at Normal Incidence.

#### **1.04 PERFORMANCE REQUIREMENTS**

- A. Window units shall meet Rating H-R25 specifications in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-05, except where more stringent requirements are specified.
- B. Window unit air leakage, when tested in accordance with ASTM E 283-04 at 1.57 psf (25 mph), shall be 0.30 cfm/ft<sup>2</sup> of frame or less.
- C. No water penetration beyond the interior face of the window when tested in accordance with ASTM E 547-00 under static pressure of 5.25 psf (45 mph) after 4 cycles of 5 minutes each separated by 1 minute with pressure released, with water being applied continuously, at a rate of 5 gallons per hour per square foot. (Optional Pressure of 7.5 psf (54 mph) for more stringent requirements)
- D. Window units shall withstand positive and negative pressures of 25 psf acting normal to the plane of the window. Units shall have no permanent deformation in excess of .4% of its span when tested in accordance with ASTM E 330-02. (Optional Pressure of 50 psf for more stringent requirements)
- E. Window units shall comply with Forced Entry Resistance requirements for a Level 10, when tested in accordance with ASTM F 588-04.
- F. Window units shall be rated, certified and labeled in accordance with NFRC 100-2001. U-Factors: (48 x 72); PPII glass, 0.32
- G. Window units shall be rated, certified and labeled in accordance with NFRC 500-2001. Solar Heat Gain Coefficient: (48 x 72); PPII glass, 0.30

#### **1.05 SUBMITTALS**

- A. Submit in accordance with conditions of Division 1 requirements and the Contract.
- B. Product Data: Submit manufacturer's product data.
- C. Shop Drawings: Typical jamb, head and sill details showing layout and installation of typical and composite members, necessary dimensioning, hardware and muller unit details. Submit elevations indicating location and type of glazing material.
- D. Samples: Provide (1) complete window assembly for approval of color, glazing system and quality of construction.

#### **1.06 QUALITY ASSURANCE**

- A. Provide proof of compliance with AAMA/NWDA I.S. 2-97 and ASTM E 774-97, Class "A" rating for Seal Durability of Insulating Glass Units.

#### **1.07 PROJECT CONDITIONS**

- A. For renovation projects, all actual window openings will be checked by accurate field measurement before fabrication.
- B. Coordinate window fabrication schedule with construction progress to avoid delays.

#### **1.08 DELIVERY, STORAGE AND HANDLING**

- A. Deliver materials to job site in manufacturer's packaging undamaged, complete with installation instructions.
- B. Store windows and accessories off ground, under cover, protected from weather and construction activities.

### **PART 2 PRODUCTS**

#### **2.01 MANUFACTURERS**

- A. SunVinyl 57 Series Double-Hung units as manufactured by Sun Windows, Inc., Owensboro, Kentucky: Factory-assembled vinyl window with sash installed in the frame.

## 2.02 COMPONENTS

- A. Frame: Impact resistant, exterior grade polyvinyl chloride extrusions complying with AAMA 303-01 and ASTM D 4726-02. Mitered and fusion welded corners, with molded-in receptor pockets for interior and exterior trim, welded slope sill with 1 inch high welded sill dam; 1 inch pre-punched nailing fin four sides.
- B. Sash: Impact resistant, exterior grade polyvinyl chloride extrusions complying with AAMA 303-01 and ASTM D 4726-02. Mitered and fusion welded corners, tilt-in upper and lower sash with recess mounted tilt-latches; integral glazing provision for exterior glazing bead; lower sash with molded –in lift rail; operable lower and upper sash. Sash thickness: 1-3/8" (35 mm). Glass shall be set to the sash frame using a silicone glazing material and secured with vinyl glass stops.
- C. Sealed insulating glass shall be produced using quality float glass complying with ASTM C 1036-02. [clear/clear] [Clear, argon filled, Low-E II coated] [Climaguard SPF, argon filled, Low-E II coated]. Various tints, obscure, tempered and laminated options are also available. Sealed insulating glass will have a ½" air space with the revolutionary TruSeal Duralite™ I.G. Spacer. Insulated Glass meets or exceeds standards required by ASTM E 774-97, Class A rating.
- D. Weatherstripping: Double-row high- density silicone treated polypropylene pile, with double mylar fin, meeting AAMA 701-00; compression-type bulb seal at lower rail meeting sill.

*The following four paragraphs specify optional products sold separately. Consult manufacturer and edit accordingly.*

- E. Insect Screen: [Full] size with charcoal vinyl-coated 18/16 mesh fiberglass screen cloth, set in 0.020" roll form aluminum frame fitted to outside of window, supplied complete with all necessary hardware. Screen frame finish shall be of color to match window cladding.
- F. Internal Grilles (ICM): [3/4" profile] [1/4" Brass profile] [1/4" Black profile] Roll form aluminum bars fitted between the panes of glass in the specified insulated glass unit. 3/4" Internal Grille (ICM) finish shall be baked enamel, 1-color options [White], [Sand] / 2-color options [White/Sand], [Sand/White]

### **2.03 HARDWARE**

- A. Balance System: Spring balances connected to frame and concealed within the frame. Incorporates locking pivot shoe when tilted to 90°.
- B. Locks/Keepers/Finger Latches: High-pressure, corrosion resistant, die cast zinc surface mounted sash lock/keeper factory installed. Two sash locks on units with 2'-8" frame width or greater. Recessed finger latches for restraining upper and lower sash. Locks meet or exceed requirements by AAMA 1302.5.

### **2.04 CERTIFICATIONS**

*Sun Windows are certified to the following programs, using Independent Testing Laboratories:*

- A. WDMA Hallmark Certification Program
- B. NFRC (National Fenestration Ratings Council)
- C. ENERGY STAR®
- D. IGMA (Insulated Glass Manufacturers Association)

### **2.05 FINISH**

## **PART 3 EXECUTION**

### **3.01 INSTALLATION**

- A. Inspect window openings prior to beginning installation. Verify that the openings are level and plumb and that the minimum opening dimension (width or height) is ¼" larger than the window unit. Proceed with installation only after unsatisfactory conditions have been corrected.
- B. Install window units in accordance with manufacturer's recommendations, Installation & Finishing Instructions and approved shop drawings.
- C. Secure assembly to framed openings, plumb, level and square, without distortion. Provide proper support and anchor securely in place.
- D. Place batt insulation in shim spaces around window perimeter to maintain continuity of building insulation. Do not use expanding foam insulation.
- E. Apply sealant and related backing materials at the exterior perimeter of the window units.
- F. Leave window units closed and locked.

### **3.03 PROTECTION AND CLEANING**

- A. Clean window frames, sash and glass promptly following installation. Avoid damaging protective coatings and finishes. Remove excess sealants, dirt and other substances.

- B. Protect window surfaces and hardware from contact with contaminating substances, such as masonry cleaning solutions. Contact with certain substances can cause damage to the glass surface and/or could cause seal failure of the insulating glass unit. These substances could also cause discoloration or damage to painted surfaces. Clean contaminated surfaces immediately after contact.
- C. Remove nonpermanent labels from glass surfaces per manufacturers Installation & Finishing Instructions.
- D. Remove and replace glass that has been broken, chipped, cracked, abraded or damaged during the construction period.

END OF SECTION

Specifications subject to change without notice.