

## SECTION 085250 – SINGLE HUNG WOOD WINDOWS

### PART 1 GENERAL

#### 1.01 SECTION INCLUDES

- A. Clad Traditional Cottage Style Single Hung windows complete with hardware, glazing, weatherstripping, screens, jamb extensions, performance divided lites, and standard or specified anchorages, trim, attachments, and accessories.

#### 1.02 RELATED SECTIONS

- A. Division 1 Section – Submittal Procedures.
- B. Division 1 Section - Execution.
- C. Division 6 Section - Rough Carpentry.
- D. Division 7 Section - Joint Sealants.
- E. Division 7 Section – Sheet Metal Flashing & Trim; for Underlayment Materials – Galvanic Protection.

#### 1.03 REFERENCES

- A. American Society for Testing and Materials (ASTM):
  1. ASTM E283-04' - Standard Test Method for Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors.
  2. ASTM E330-02' - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
  3. ASTM E547-00' - Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Cyclic Static Air Pressure Differential.
  4. ASTM E1425-07' or AAMA 1801 - Certification of Acoustical Performance.
  5. ASTM F588-07' or AAMA 1302.5 - Standard for Forced-Entry Resistance.
  6. AAMA 1423-99, 1503.1-98 and 1504-97 - Standard for Thermal Transmittance.
- B. American Architectural Manufacturers Association/Window and Door Manufacturers Association (AAMA/WDMA), American National Standards Institute/Window and Door Manufacturers Association (ANSI/WDMA), Canadian Standards Association (CSA).
  1. AAMA/WDMA/CSA 101/I.S.2/A440-05', 101/I.S.2/A440-08' Standard / Specification for Windows, Doors and Skylights
  2. WDMA I.S. 4-07'A Water Repellant Preservative Treatment for Millwork
- C. National Fenestration Rating Council (NFRC)
  1. NFRC 100-2004' & 2010' - Determining Fenestration U-Factor.
  2. NFRC 100-2004' & 2010' - Test Procedure for Thermal Transmittance of Fenestration.
  3. NFRC 200-2004' & 2010' Determining Fenestration SHGC & Tv.
  4. ASTM E1423-06' - Determining Thermal Transmittance of Fenestration Systems.
  5. AAMA 1503.1-98 - Test Derived CRF.

6. NFRC 500-2010' - Determining Fenestration Product Condensation Resistance.

D. WDMA Hallmark Program

1. WDMA Hallmark Program Procedural Guide C.S.-1.

E. Consumer Product Safety Commission (CPSC)

1. CPSC 16 CFR 1201 - Safety Glazing Standards.

2. ANSI Z-97.1 - Safety Glazing Standards for Tempered Glass.

1.04 SUBMITTALS

A. Product Data, Shop Drawings, Samples, and Glazing: Submit in accordance with Division 01 Section Submittals.

B. Installation Instructions: Submit in accordance with Division 01 Section Submittals.

C. Quality Control Submittals: Certificates: Submit performance test results reported by independent laboratory or manufacturer's Statement of Qualification indicating compliance with specified performance and design requirements.

1.05 QUALITY ASSURANCE

A. Insulating Glass: Certifications are required from IGCC and IGMAC.

B. Safety Glass: Certification is required from CPSC 16 CFR 1201. Glazing shall comply with the test criteria specified. Provide etched labels.

C. NFRC Certification Program for Energy Rating of Fenestration.

D. WDMA Hallmark Program and Air-Water-Structural Test Reports  
<http://www.kolbewindows.com>.

D. IGMAC-Insulating Glass Manufacturer's Association Canada.

E. Mock Up: Provide full size installed sample of Window Type "B" sample for review and approval prior to ordering remainder of windows, including moldings, sealants, and other components to represent a complete installation. If the mock-up window and installation are approved it may remain in place. If not approved it shall be immediately removed or modified prior to ordering the remainder of windows.

1.06 WARRANTY

A. Warranty: Provide manufacturer's limited two year warranty.

PART 2 PRODUCTS

2.01 MANUFACTURED UNITS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Basis of Design: Kolbe & Kolbe Millwork Co., Inc., “Ultra Traditional Cottage Style Single Hung”, or approved equal. Comparable products that meet or exceed the specifications will be considered, including the following:
  - a. Pella Windows
  - b. Winco Windows
  - c. Marvin Windows
  - d. Or approved equal
2. Energy Performance: Assembly Maximum U-factor =0.33.

## 2.02 MATERIALS

- A. Frame: Constructed of kiln-dried pine, with pine interior stops and mull casings on muller units, water repellent, preservative treated in accordance with WDMA I.S. 4-07<sup>A</sup>. Ultra assembled frames have factory installed heavy vinyl nailing fins at head, side jambs, and sill. Nailing fin at head has integral drip cap. Transom head drip cap to be field applied to frame. Units with brickmould or casing do not have a vinyl nailing fin factory applied as standard.
  1. Jamb Thickness: 3/4 inch (19mm) at the side jambs and head.
  2. Standard overall jamb with extensions applied: 4-9/16 inch (116mm).
  3. Sill thickness: 1-3/16 inch (30mm) with 14° slope.
  4. Exterior: All frame parts are .050 inch (1.3mm) thick 6063 extruded aluminum alloy with accessory grooves, press fit onto the wood frame.
  5. Corner Construction: Head and side jambs have mitered corners and use internal corner keys with sealer. Sill end has a profile cut and utilizes an end key with sealer.
- B. Sash: Constructed of kiln dried pine, water repellent, preservative treated in accordance with WDMA I.S. 4-07<sup>A</sup>.
  1. Thickness: 1-3/8 inch (35mm) [1-23/32 inch (44mm) Transom].
  2. Exterior: Sash parts are completely covered by a .019 inch (0.5mm) thick 5052 roll formed aluminum alloy with all corners lap jointed and sealed.
  3. Corner Construction: Mortise-and-tenon.
  4. Other wood species available:
  5. Interior glazed.
  6. Sash Lift Handles: Manufacturer’s “Curved Sash Lift Handles”; two (2) per sash. Color shall be as selected by Architect from full range of colors.
- C. Surface Finish:
  1. Exterior Finish – Aluminum
  2. Standard Paint Colors: Exterior aluminum frame and sash components, and PDL bars are to have a 70% fluoropolymer based coating in compliance with AAMA 2605-13 specifications. Color is to be as selected by Architect from full range of colors available.
  3. Interior Finish - Wood:
    - a. Interior wood is to have a water based stain with a clear water based top coat. Stain color is to be as selected by Architect from full range of colors available.
- D. Hardware:

1. Lock and keeper: Pick resistant Entry-Gard® cam locks with concealed locking mechanism including alignment lugs. Sash lock and keeper constructed of high-pressure die-cast zinc with aluminum back plate. Finishes: As selected by Architect from full range of options available. of colors available.
  2. Balancing system: Spring loaded block and tackle mechanical balancing system with polyester cord. Balance case is painted to match liner. Zinc die-cast pins engage and release balance clutches allowing the sash to be tilted in and removed for cleaning.
- E. Weatherstripping:
1. Frame Head Parting Stop: Rigid weatherable PVC parting stop with flexible fins. Beige.
  2. Top Rail, Check Rail, and Bottom Rail: Black TPE compression bulb.
  3. Sill: Rigid weatherable, UV resistant PVC water seal/weatherstrip. Passes drop dart test. Color as selected by Architect.
  4. Head Pad: Polyurethane and polyethylene foam pad.
  5. Jambliners: Made of weatherable, UV resistant PVC. Passes drop dart test. Color as selected by Architect.
  6. Transom Frame Nosing: Full perimeter 7/8 inch (22mm) closed cell foam backer rod.
- F. Screens: Sent loose as standard on all units.
1. Surrounds: Full
  2. Screen cloth: Basis of Design Manufacturer's BetterVue® Black fiberglass; color as selected by Architect.
  3. Screen Channels: .024 inch (0.6mm) thick roll formed aluminum.
  4. Attachment: Spring loaded plungers.
  5. Corner Construction and Finish Color: Screen channel colors to match exterior colors. Channels are joined and reinforced with a corner key. Screens are available for segment head and 1/2 circle top units.
- G. Performance Divided Lites (PDL): PDL system utilizes a permanently adhered wood grille bar to the interior and a permanently adhered aluminum grille bar to the exterior glass.
1. Material: Muntin is constructed of .050 inch (1mm) thick 6063 extruded aluminum alloy on exterior, pine on interior 5/8 inch (16mm) wide, beveled profile.
  2. Spacer bar between the glass. Finish as selected by Architect from full range of options.
  3. Exterior surface finish: To match frame and sash exterior.
- H. Accessories & Trim
1. Casings
    - a. 3-1/2 inch (89mm) profiled brickmould.
  2. Nosings
    - a. 2-1/8 inch (54mm) projected sill nosing with end caps.
  3. Frame Expanders
    - a. To suit conditions.

## 2.03 GLAZING

- A. Type 1: Double Pane. Basis of Design manufacturer's LoE insulating glass, with a stainless steel spacer bar, 20-year warranty; 9/16 inch (14mm) thick with LoE<sup>2</sup>-270, argon filled.
- B. Type 2: Double Pane. Manufacturer's LoE insulating Safety glass; 9/16 inch (14 mm) thick with a stainless steel spacer bar, option on surface 2 and a hard coat on surface 4 plus permanent coating (interior pane).
  - 1. Glazing shall comply with the test criteria for Category Classification II per CPSC 16 CFR Part 1201.
  - 2. Provide etched labels.
  - 3. Patterned, bronze, or gray-lite.
  - 4. Protective film.
- B. Glazing Methods:
  - 1. High Performance option operating units and fixed units have silicone-glazed structural silicone bedding sealant on #1 surface with a 0.5 inch (13mm) bite, and supplemental siliconized latex sealant on #4 surface at bottom wood glazing bead.
- C. Glass Options:
  - 3. Manufacturer's "ThermaPlus" LoE glass with LoE<sup>2</sup>-270 option on surface 2 and a LoE hard coat on surface 4 plus permanent coating (interior pane)].
  - 4. Patterned, bronze, or gray-lite.
  - 5. Safety glass available for Type 2 glazing.
  - 6. Protective film.
- D. Glazing Bead Options:
  - 1. Beveled profile

## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. Verification of Conditions: Before installation, verify that openings are plumb and square and of proper dimension. Report frame defects or unsuitable conditions to the General Contractor before proceeding.
- B. Acceptance: Beginning of installation means acceptance of existing conditions.

### 3.02 INSTALLATION

- A. Isolate dissimilar metal surfaces in accordance with galvanic protection underlayment materials specified in Division 07 Section “Sheet Metal Flashing & Trim”.
- B. Install windows according to manufacturer’s installation instructions, reviewed shop drawings and in accordance with Division 01 Section – Execution.
- C. Install sealant and related flashing materials at perimeter of assembly in accordance with Division 7 Section - Joint Sealants.
- C. Install accessory items as required.

### 3.03 ADJUSTING AND CLEANING

- A. Adjust operable sash to work freely with hardware functioning properly. Re-adjust at completion of the project if directed.
- B. Remove visible labels.
- C. Leave windows in a job clean condition. Final cleaning of glass will be done in accordance with Section 01740 – Cleaning.

### 3.04 PROTECTION

- A. Cover windows, in accordance with Division 1 Section – Execution.
- B. Protect Installed Construction, during masonry repair work, muratic acid washing, or other work that might cause damage.

END OF SECTION