

SECTION 08551

ALUMINUM CLAD WOOD WINDOWS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Aluminum clad wood ultimate single hung magnum window complete with hardware, glazing, weather strip, insect screen, simulated divided lite, jamb extension, and standard or specified anchors, trim, attachments, and accessories.

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 1. E 283: Standard Test Method for Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors.
 2. E 330: Standard Test Method for Structural Performance of Exterior Windows, Curtains Walls, and Doors by Uniform Static Air Pressure Difference.
 3. E 547: Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Cyclic Static Air Pressure Differential.
 4. E 2190: Specification for Sealed Insulated Glass Units.
 5. C 1036: Standard Specification for Flat Glass.
- B. WDMA I.S.4: Industry Standard for Water Repellent Preservative Treatment for Millwork.
- C. American Architectural Manufacturers Association / Window and Door Manufacturers Association (AAMA / WDMA): ANSI / AAMA / NWWDA 101 / I.S.2-97 Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors. and 101 / I.S.2 / NAFS-02 Voluntary Performance Specification for Windows, Skylights and Glass Doors.
- D. Window and Door Manufacturers Association (WMDA): 101 / I.S.2 WDMA Hallmark Certification Program.
- E. Sealed Insulating Glass Manufacturers Association / Insulating Glass Certification Council (SIGMA / IGCC).
- F. American Architectural Manufacturers Association (AAMA): 2605: Voluntary Specification for High Performance Organic Coatings on Architectural Extrusions and Panels.
- G. National Fenestration Rating Council (NFRC): 101: Procedure for Determining Fenestration Product Thermal Properties.

1.3 SYSTEM DESCRIPTION

- A. Design and Performance Requirements:
 1. Window units shall be designed to comply with ANSI / AAMA / NWWDA 101 / I.S.2-97 and 101 / I.S. 2/ NAFS-02:
 - a. Single Hung: (H-C50 up to CN 4848) (H-C35 up to CN 5436)
 2. Air leakage shall not exceed the following when tested at 1.57psf according to ASTM E 283: .30 cfm per square foot of frame.
 3. No water penetration shall occur when units are tested at the following pressure according to ASTM E 547: (H-C50 – 7.5) (H-C35 – 5.25) (F-C50 – 7.5) (TR-LC50 – 7.5) psf.
 4. Window assembly shall withstand the following positive or negative uniform static air pressure difference without damage when tested according to ASTM E 330: (H-C50 – 75) (H-C35 – 52.5) (F-C50 – 75) (TR-LC50 – 75) psf.

1.4 SUBMITTALS

- A. Shop Drawings: Submit shop drawings to Architect.
- B. Product Data: Submit catalog data to Architect.
- C. Samples:
 1. Submit corner section to Architect.
 2. Include glazing system, quality of construction, and specified finish.
- D. Quality Control Submittals: Certificates: Submit manufacture's certifications indicating compliance with specified performance and design requirements.

1.5 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with requirements for 2006 IBC International Building Code.

1.6 DELIVERY

- A. Deliver in original packaging and protect from weather.

1.7 STORAGE AND HANDLING

- A. Prime or seal wood surfaces, including surface to be concealed by wall construction, if more than thirty (30) days will expire between delivery and installation.
- B. Store window units in an upright position in a clean and dry storage area above ground and protect from weather.

1.8 WARRANTY

- A. Windows shall be warranted to be free from defects in manufacturing, materials, and workmanship for a period of ten (10) years from purchase date.
- B. Insulating glass shall be warranted against visible obstruction through the glass caused by a failure of the insulating glass air seal for a period of twenty (20) years from the date of original purchase.

PART 2 PRODUCTS

2.1 MANUFACTURED UNITS

- A. Description: Clad Ultimate Single Hung Magnum as manufactured by Marvin Windows and Doors, Warroad, Minnesota, or approved equal

2.2 FRAME DESCRIPTION

- A. Clear pine or finger jointed core with clear pine veneer, finger jointed (clear) sill.
 - 1. Kiln dried to a moisture content no greater than twelve (12) percent at the time of fabrication.
 - 2. Water repellent preservative treated in accordance with WDMA I.S.4.
- B. Frame thickness: 11/16 inch (17 mm) head jamb, 1-11/32 inch (34 mm) composite side jamb, 1-7/16 inches (37 mm) sill, 8 degree bevel.
- C. Frame width: 4-9/16 inches (116 mm). Exterior extruded aluminum clad 0.050 inch (1.3 mm) thick.

2.3 SASH DESCRIPTION

- A. Clear pine.
 - 1. Kiln dried to a moisture content no greater than twelve (12) percent at the time of fabrication.
 - 2. Water repellent preservative treated in accordance with WDMA I.S.4.
- B. Composite sash thickness: 1-9/16 inches (40 mm) for operating units, 1-9/16 inches (44 mm) for transom units and 2 inch (51 mm) for picture units. Corners slot and tenoned.
- C. Sash exterior extruded aluminum clad 0.045 inch (1.1 mm) thick, with operable sash tilt to interior for cleaning or removal after removal of an interior stop.

2.4 GLAZING

- A. Select quality complying with ASTM C 1036. Insulating glass SIGMA/IGCC certified to performance level CBA when tested in accordance with ASTM E 2190.
- B. Glazing method: Insulated glass (Altitude adjusted).
- C. Glass type: Gray (to match existing tint of basement-level windows. Coating shall be "LoE-272" as manufactured by Cardinal or "Solarban 60" as manufactured by PPG. Tempered glass where specified and/or required.
- D. Glazing seal: Silicone bedding on interior; acrylic foam adhesive tape on exterior.

2.5 FINISH

- A. Exterior: Aluminum clad. Fluoropolymer modified acrylic topcoat applied over primer. Meets or exceeds AAMA 2605 requirements.
 - 1. Standard Color: To match existing clad basement windows.
- B. Interior: Latex prime coat, white.

2.6 Hardware:

- A. Balance system: Spiral spring class five balance system and fiber filled nylon clutch. Meets or exceeds AAMA 902 requirements.
- B. Jamb carrier: Vinyl extrusion with wood and aluminum inserts. Color: Beige.
- C. Lock: High pressure zinc die-cast cam lock and keeper. Finish: Phosphate coated and electro statically painted Oil Rubbed Bronze.
- D. Optional Sash lifts: High pressure zinc die-cast. Color: Oil Rubbed Bronze.

2.7 WEATHER STRIP

- A. Operating units: Continuous leaf weather strip at head jamb parting stop; foam filled bulb weather strip at check rail; foam filled bulb weather strip along vertical sash edge; bulb weather-strip at bottom rail. Color: Beige.

2.8 JAMB EXTENSION

- A. Factory installed jamb extension for wall thickness indicated or required.
- B. Finish: Match interior finish.

2.9 INSECT SCREENS

- A. Factory installed half screen (double hung), full screen (awning/casement).
- B. Screen cloth, 18 by 16 mesh: Charcoal fiberglass.
- C. Aluminum frame finish:
 - 1. Standard Color: To match exterior frame cladding.

2.10 SIMULATED DIVIDED LITES (SDL)

- A. 7/8 inch (22 mm) wide; 1-1/8 inch (29 mm) wide; (with internal spacer bars)
 - 1. Exterior muntins: 0.055 inch (1.4 mm) thick extruded aluminum.
 - 2. Interior muntins: Pine. Muntins adhered to glass with double coated acrylic foam tape.
 - 1. Pattern: Custom lite layout.
 - 2. Finish: Match sash finish.

2.11 ACCESSORIES AND TRIM

- A. Installation Accessories:
 - 1. Masonry brackets: 6 inch (152 mm) or 10 inch (254 mm).
- B. Aluminum Extrusions:
 - 1. Profile: Custom aluminum casing: "Grayson", as indicated on drawings.
 - 2. Finish: Fluoropolymer modified acrylic topcoat applied over primer. Meets or exceeds AAMA 2605 requirements.
 - a. Standard Color: To match exterior frame cladding.

PART 3 EXECUTION

3.1 EXAMINATION

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

3.2 INSTALLATION

- A. Assemble and install window unit according to manufacturer's instructions and reviewed shop drawings.
- B. Install sealant and related backing materials at perimeter of unit or assembly. Do not use expansive foam sealant.
- C. Install accessory items as required.

3.3 CLEANING

- A. Remove visible labels and adhesive residue from glass according to manufacture's instructions.
- B. Leave windows and glass in a clean condition.

3.4 PROTECTING INSTALLED CONSTRUCTION

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

END OF SECTION