

SECTION 08550

WOOD WINDOWS

1 PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes: Vinyl Clad Double-Hung Tilt in and Awning Wood Windows.
- B. Related Sections:
 - 1. Division 6 Section: Finish Carpentry.
 - 2. Division 9 Section: Gypsum Drywall.
 - 3. Division 7 Section: Sealants.
 - 4. Division 7 Section: Thermal Insulation.

1.2 REFERENCES

- A. General: Standards listed by reference, including revisions by issuing authority, form a part of this specification section to the extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation number, title or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.
- B. American National Standards Institute (ANSI):
 - 1. ANSI/AAMA/NWDA 101/I.S.2 Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors.
- C. ASTM International:
 - 1. ASTM C1036 Standard Specification for Flat Glass.
 - 2. ASTM C1048 Standard Specification for Heat-Treated Flat Glass--Kind HS, Kind FT Coated and Uncoated Glass.
 - 3. ASTM D3656 Standard Specification for Insect Screening and Louver Cloth Woven from Vinyl-Coated Glass Yarns.
 - 4. ASTM D4216 Standard Specification For Rigid Poly (Vinyl Chloride) (PVC) And Related PVC and Chlorinated Poly (Vinyl Chloride) (CPVC) Building Products Compounds.
 - 5. ASTM E90 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
- D. Insulating Glass Certification Council (IGCC):
 - 1. Requirements for Class CBA.

- E. Insulating Glass Manufacturers Association of Canada (IGMAC):
 - 1. Requirements for CAN/CGSB 12.8.
- F. National Institute of Standards and Technology (NIST):
 - 1. Voluntary Product Standard PS1.
- G. National Fenestration Rating Council (NFRC):
 - 1. NFRC 100 Procedure for Determining Fenestration Product Thermal Properties.
 - 2. NFRC 200 Procedure for Determining Solar Heat Gain Coefficient.
- H. Window and Door Manufacturers Association (WDMA), (formerly National Wood Window & Door Association (NWWDA)):
 - 1. WDMA Industry Standard I.S.4 Industry Standard for Water-Repellent
 - 2. Preservative Non-Pressure Treated for Millwork.

1.3 SYSTEM DESCRIPTION

- A. Performance Requirements: Provide products/systems that have been manufactured, fabricated and installed to the following performance criteria:
 - 1. Test to ANSI/AAMA/NWWDA 101/I.S.2.
 - 2. Performance Grade: [Specify performance grade].
 - a. U-Factor (NFRC 100): [Specify U-Factor].
 - b. Solar Heat Gain Coefficient (SHGC) (NFRC 200): [Specify SHGC].
 - c. Outdoor Indoor Transmission Class (OITC) (ASTM E90): [Specify OITC].
 - d. Sound Transmission Class (STC) (ASTM E90): [Specify STC].

1.4 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
- B. Product Data: Submit manufacturer's product data and installation instructions.
- C. Shop Drawings: Provide drawings indicating direction of operable parts, typical jamb, head and sill conditions and special mullion reinforcement details.
- D. Samples: Submit selection and verification samples, including the following:
 - 1. Hardware: Submit sample indicating typical finish on hardware.
 - 2. Vinyl Cladding: Submit color samples of exterior cladding.
- E. Quality Assurance/Control Submittals: Submit the following:
 - 1. Performance Data: Provide manufacturer's published performance data for specified products.

- F. Closeout Submittals: Submit the following:
 - 1. Warranty documents specified herein.
 - 2. Owner's Manual: Bound manual clearly identified with project name, location and completion date. Identify type and size of [Window] [And] [Door] units installed. Provide recommendations for periodic inspections, care and maintenance. Identify common causes of damage with instructions for temporary repair.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Utilize an installer having demonstrated experience on projects of similar size and complexity.
- B. Regulatory Requirements and Approvals: [Specify applicable requirements of regulatory agencies.].
- C. Certifications: [Specify requirement for certifications.].
 - 1. Insulating Glass Units: Provide insulating glass units permanently marked with certification label of [Insulating Glass Certification Council (IGCC) indicating compliance with Class CBA] [Insulating Glass Manufacturers Association of Canada (IGMAC) and conforming to the requirements of Canadian General Standards Board specification CAN/CGSB 12.8].

1.6 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 1 Product Requirement Section.
- B. Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.
- C. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- D. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.
 - 1. Store [Doors] [And] [Windows] and accessories off ground, under cover, protected from weather and construction activities.

1.7 PROJECT/SITE CONDITIONS

- A. Field Measurements: Verify actual dimensions of openings by field measurement before fabrication. Record measurements on shop drawings. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.
- B. Install [Doors] [And] [Windows] in strict accordance with manufacturer's safety and weather recommendations.

1.8 WARRANTY

- A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

- B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard limited warranty document. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under contract documents.

2 PART 2 PRODUCTS

2.1 WOOD WINDOWS

- A. Manufacturer: Andersen Corporation.
- B. Proprietary Products/Systems. Vinyl clad double-hung tilting wood windows, including the following:
 - 1. Andersen 200 Series Tilt-Wash Double-Hung Windows, pre-finished interior, white.
 - 2. Andersen 400 Series Awning Windows, pre-finished interior, white.

2.2 PRODUCT SUBSTITUTIONS

- A. Substitutions: No substitutions permitted.

2.3 MATERIALS

- A. Frame and Sash: Fabricated from wood species approved in WDMA Industry Standard I.S.2 and treated according to WDMA I.S.4.
- B. Vinyl Cladding: Rigid vinyl (PVC). Comply with requirements of ASTM D4216.
 - 1. Color: White.
- C. Weatherstripping:
 - 1. Double-Hung Horizontal Weatherstripping: Weatherstripping at head jamb consists of a flexible PVC leaf and bulb. Weatherstripping at check rail interlock consists of a flexible PVC bulb. Gasket type covered foam between bottom rail and sill cover.
 - 2. Double-Hung Unit Vertical Weatherstripping: Compressible PVC profiles installed in side jamb liners contacting sash edges with flexible fin assisting contact along lower sash edges. Provide fin-pile plug attached to jamb liner at check rail area of side jamb between sash runs. Seal lower jamb liner with 2 silicone closed cell foam plugs.
 - 3. Venting Sash: Weatherstripped with [Tubular flexible vinyl] [Flexible EPDM foam].
- D. Hardware:
 - 1. Double-Hung Window Hardware:
 - a. Sash Locks and Keepers: Cam-operated injection molded glass reinforced polyester sash locks with integral color: [Standard stone finish] [White].

- b. Balances: Fit top and bottom sash with concealed sash mounted balances consisting of spring power with block and tackle. Design balances to ensure easy operation of double-hung units.
2. Awning Hardware:
- a. Operator: Rotary type operator attached to a plated steel rod applied to bottom rail of sash. A single steel operator arm stamped with a gear ring. Set arm gear assembly between nylon bushing and nylon spacer. Encase drive shaft and worm gear assembly in zinc diecast housing base.
 - b. Operator Handle and Covers: [Classic™ Series hardware; zinc diecast Easy grip style handle with powder coated painted finish in and polycarbonate operator cover with integral color in White finish.
 - c. Sash Locks: Single actuation lock concealed by trim stops. Diecast zinc, galvanized steel link and engineered polymer components.
 - d. Hinges: Stainless steel hinges with steel reinforced, sliding nylon shoes. Apply hinges to venting sash indicated on drawings.
 - e. Corrosion Resistant Hardware: Hinges with 316 stainless steel arms, rivets, track, screws and shoe insert. Operator with 302 stainless steel gear arm rivet, bottom plate Zn-Co plated steel; all other parts plated and powder coated steel or zinc.

2.4 GLAZING

- A. General: Insulating glass units certified through the Insulating Glass Certification Council and conforming to the requirements of [IGCC Class CBA] [Insulating Glass Manufacturers Association of Canada (IGMAC) conforming to the requirements of Canadian General Standards Board CAN/CGSB 12.8]. Provide dual sealed units consisting of polyisobutylene primary seal and silicone secondary seal. Metal spacers to have bent corners.
- B. Low-E, Argon Blend Filled Insulating Glass Units:
 - 1. [Low-E insulating glass units to consist of an outboard lite of clear annealed glass conforming to ASTM C1036, Type 1, Class 1, q3 and an inboard lite of clear, heat strengthened glass conforming to ASTM C1048, Type 1, Class 1, q3, Kind HS] [Tempered Low-E insulating glass units to consist of 2 layers of clear tempered glass conforming to ASTM C1048, Type 1, Class 1, q3, Kind FT].
 - 2. Low-E Coating: Magnetron sputtering vapor deposition (MSVD) Low-E coating applied to the No. 2 surface.
 - 3. Filling: Fill space between glass lites with argon gas blend.

2.5 JOINING SYSTEMS

- A. Joining Systems: 1-way combination only.
 - 1. Narrow Wood Joining: Machined LVL wood members treated with water repellent preservative after machining in accordance with WDMA I.S.4.

2. Gusset Plates: Galvanized steel plates that attach to wood frame.
3. Exterior Trim Strips: As recommended by window manufacturer for each joining method used. Color to match window unit exterior color.

2.6 ACCESSORIES

- A. Finelight™ Grilles: Provide 3/4 inch (19 mm) wide contour profile aluminum muntin bars permanently mounted within the insulated glass unit where indicated on Drawings. Grille intersections to be ABS concealed plastic connectors with nylon end keepers.
- B. Extension Jamb:
 1. Unfinished wood members machined from clear material or veneered finger-jointed material approved in ANSI/AAMA/NWDA 101/I.S.2. Predrill extension jambs for application.] or [White 0.008 inch (0.2 mm) vinyl wrapped wood.
- C. Support Mullion Trim: Provide 2 inch (51 mm) wide wood filler and vinyl trim strip where indicated on Drawings.
 1. Treat wood members with water repellent preservative after machining in accordance with WDMA I.S.4.
 2. Provide exterior vinyl trim strip. Color to match window exterior.
 3. Provide 6 inch (200 mm) long sheet vinyl head flashing. Color to match window exterior at mullion head.
- D. Insect Screens: Provide venting sash with an insect screen, including attachment hardware.
 1. Frames: 0.024 inch (0.61 mm) rolled aluminum frame with chromate conversion coating. Provide matching corner locks and latch retainers.
 2. Insect Screen Cloth: 18 × 16 fiberglass mesh, black finish. Conform to ASTM D3656.
 3. Frame Finish: High-bake polyester finish. Color: [White] [Sandtone].
- E. Sash Lifts: Injection molded PVC composite. Color: [White] [Stone].

2.7 FABRICATION

- A. Preservative Treatment: Treat wood frame members and interior glazing stops after machining with a water repellent preservative in accordance with WDMA I.S.4.
- B. Vinyl Cladding: Frame Units: Sheath frame units with preformed rigid vinyl to provide a joint-free cover. Vinyl sheathing to have 0.035 inch (0.89 mm) integral flanges for installation. Bond sheathing to wood frame with vinyl-to-wood adhesive.
- C. Jamb and Head Liners:
 1. Hung Units: Provide 0.045 inch (1.14 mm) thick, rigid vinyl side jamb and head jamb liner extrusions secured to jamb assembly.

- D. Sash: Treat sash members with a preservative, water repellent, conductive solution in accordance with WDMA I.S.4.
 - 1. Stabilizer Coating: Apply minimum 1.5 mil dry thickness stabilizer to all surfaces to be topcoated.
 - 2. Finish Coating: Apply minimum 1.5 mil dry thickness Flexacron® finish coat over stabilized exterior and interior surfaces.
 - 3. Glazing: Factory glaze with high quality glazing silicone sealant and snap-in rigid vinyl glazing bead.
- E. Factory apply weatherstripping.

3 PART 3 EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- A. Comply with the instructions and recommendations of the window manufacturer.

3.2 EXAMINATION

- A. Site Verification of Conditions:
 - 1. Verify that site conditions are acceptable for installation of Windows, including the following:
 - a. Concrete surfaces are dry and free of excess mortar, rocks, sand and other construction debris.
 - b. Rough opening or masonry opening is square and dimensions are correct.
 - c. Sill plates are level.
 - d. Wood frame walls are dry, clean, sound and well nailed, and/or glued, free of voids and without offsets at joints.
 - e. Nail heads are driven flush with all surfaces in opening and within 3 inches (75 mm) of rough opening.
 - 1) Do not proceed with installation of [Windows] [And] [Doors] until unacceptable conditions are corrected.

3.3 INSTALLATION

- A. Techniques:
 - 1. Remove window components, parts, accessories and installation guides from carton.
 - 2. Inspect window components and verify that components are not damaged and that all parts are included before disposing of carton.

3. Shop assemble multiple units before installation in accordance with manufacturer's installation guides.

B. Interface with Other Work:

1. Install windows level, plumb, square, true to line, without distortion, anchored securely in place to structural support and in proper relation to wall flashing and other adjacent construction.
2. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.
3. Install insulation in shim space around window perimeter to maintain continuity of building insulation. Do not overfill.
4. Hold back exterior siding or other finish materials from edge of [Window] [And] [Door] to allow for expansion and contraction and the installation of a proper sealant joint with backing materials. Seal perimeter of window after exterior finish is applied in accordance with the requirements of related section.
5. Finish interior [Window] [And] [Door] components according to requirements specified in related sections. Refer to, and comply with, additional requirements in manufacturer's installation guides.
6. Install optional hardware and unit accessories after cleaning.

C. Site Tolerances: [Specify allowable variation.].

1. Adjust operating sashes and ventilators, screens, hardware and accessories for a tight fit at contact points and weatherstripping for smooth operation and weathertight closure.

3.4 CLEANING

A. Clean window surfaces immediately after installation using cleaning materials and methods specifically recommended by window manufacturer.

1. Remove excess sealants, glazing materials, dirt and other substances.
2. Avoid damaging protective coatings and finishes.

B. Protect window surfaces from masonry cleaning solutions that could damage insulating glass panels or hardware.

C. Remove debris from work site and properly dispose of debris.

3.5 PROTECTION

A. Protect installed work from damage due to subsequent construction activity on the site.

...END OF SECTION