



SunClad Heritage Casement Windows
Section 08551

ALUMINUM-CLAD WOOD CASEMENT WINDOWS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Factory-assembled extruded aluminum-clad wood casement windows
- B. Glass and glazing
- C. Weatherstripping
- 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.
- E. Section (09900-Painting): Finishing Interior Wood, including removable grilles.

1.03 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 1. ASTM C 1048 - Specification for Heat Treated Float Glass-Kind HS, Kind FT Coated and Uncoated.
 2. ASTM C 1036 - Specification for Flat Glass.
 3. ASTM E 1300 - 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 - Specification for Seal Durability of Insulating Glass Units
 6. ASTM E 283 - Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors under Specified Pressure Difference Across the Specimen.
 7. ASTM E 330 - Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.
 8. ASTM E 547 - Water Penetration of Exterior Windows, Curtain Walls and Doors by Cyclic Static Air Pressure Differential.
 9. ASTM F 588 - Measuring the Forced Entry Resistance of Window Assemblies, excluding glazing.
- B. Window and Door Manufacturer's Association (WDMA):
 1. WDMA I.S.2 - Industry Standard for Wood Windows.
 2. WDMA I.S.4 - Industry Standard for Water Repellent Preservative Non-Pressure Treatment for Millwork.
- C. American Architectural Manufacturer's Association (AAMA):
 1. AAMA 701 and 702 - Combined Voluntary Specification for Pile Weatherstripping and Voluntary Specification for Replacement Fenestration Weatherseals.
 2. AAMA 2603 - Voluntary Specification for Pigmented Organic Coatings on Aluminum Extrusions and Panels.
- D. National Fenestration Rating Council (NFRC):
 1. NFRC 100 - 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-R20 specifications in accordance with AAMA/NWWDA 101/I.S.2-97, except where more stringent requirements are specified. (Optional Rating: H-R40)
- B. Window unit air leakage, when tested in accordance with ASTM E 283-91 at 1.57 psf (25 mph), shall be 0.25 cfm/ft² of frame or less.
- C. No water penetration beyond the interior face of the window when tested in accordance with ASTM E 547-96 under static pressure of 9.00 psf (60mph) 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.
- D. Window units shall withstand positive and negative pressures of 30 psf (108 mph) acting normal to the plane of the window. Units shall have no permanent deformation in excess of 1/175 of its span when tested in accordance with ASTM E 330-97.

Note: Prices, Sizes, Descriptions, Features, Options and Availability are subject to change without notice.

FAX Orders: (270) 926-6452 24 hrs / 7 days a week • Customer Service: (270) 684-0691 Monday - Friday 8:00 a.m. to 4:30 p.m. (central time)
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(Optional Pressure of 60 psf (153 mph) for more stringent requirements).

- E. Window units shall comply with the Forced Entry Resistance requirements for a Level 10, when tested in accordance with ASTM F 588-97.
- F. Window units shall be rated, certified, and labeled in accordance with NFRC 100.
U-factors: Residential Size (24 x 48); PPII glass 0.40
Non-Residential Size (30 x 60); PPII glass 0.38
- G. Window units shall be rated, certified, and labeled in accordance with NFRC 200.
Solar Heat Gain Coefficient: Residential Size (24 x 48); PPII glass 0.29
Non-Residential Size (30 x 60); PPII glass 0.31

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/NWWDA I.S.2-97 and ASTM E 774, 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. SunClad Heritage Casement units as manufactured by Sun Windows, Inc., Owensboro, Kentucky: Factory-assembled extruded aluminum-clad wood window with sash installed in the frame.

2.02 COMPONENTS

- A. Frame: Select kiln-dried Western Wood, water-repellent, preservative-treated in accordance with WDMA I.S.4. Interior exposed surfaces clear Western Wood; all exterior surfaces clad with 0.050" extruded aluminum at head, jambs, and sill and incorporate an integral nail fin. Overall frame depth: 6" (153mm) for a wall depth of 4-9/16" (116mm). Optional factory-applied jamb extensions available up to 7-9/16" wall depths.
- B. Sash: Select kiln-dried Western Wood, water-repellent, preservative-treated in accordance with WDMA I.S.4. Interior exposed surfaces clear Western Wood; exterior surfaces clad with 0.045" extruded aluminum, mitered and assembled with corner keys. Wood corners butt-jointed and secured with metal fasteners. Sash thickness: 2-5/8" (67mm). Glass shall be set to the sash frame using a silicone glazing material and secured with interior profiled wood stops.
- C. Glazing System: Sealed insulating glass shall be produced using quality float glass complying with ASTM C-1036. Clear/clear, Clear/argon filled/Low-E II coated. Various tints, obscure, tempered, laminated, and triple glazing options are also available. Dual sealed insulating glass will have a 1/2" air space with the revolutionary Swiggle® Seal* Warm Edge I.G. Spacer. Insulated glass meets or exceeds standards required by ASTM E 774-97, Class "A" rating.



- D. Weatherstripping: Continuous, Polyethylene Clad Urethane Foam compression seal for enhanced resistance against compression set and air leakage. Weatherstrip meets or exceeds standards required by AAMA 702.

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

- E. Insect Screen: Full size with charcoal vinyl-coated 18x16 mesh fiberglass screen cloth, set in 0.020" roll form aluminum frame fitted to inside of window, supplied complete with all necessary hardware. Screen frame finish shall be of sand. Optional colors are available in white and bronze.
- F. Interior Removable Wood Grilles: 1" profile removable solid wood bars dado and notched at joints and fitted to sash with clear plastic slide latch with steel pin. Surfaces unfinished, ready for site finishing.
- G. Internal Grilles (ICM): 5/8" profile, 5/16" Brass profile, 1" profile roll form aluminum bars fitted between the panes of glass in the specified insulated glass unit. 5/8" and 1" Internal Grille (ICM) finish shall be baked enamel, 1-color options in white, sand, bronze, vanilla, and special** or 2-color options in white/sand, sand/white. White/wood grain is available in 5/8" profile only.
- H. Simulated True Divided Lite Grilles: Exterior Muntin Bars shall be 1/8" thick by 1" wide profiled, solid extruded aluminum bars. Bars shall be adhered to exterior glass surface with black acrylic adhesive tape and will align with Interior Muntin. Interior Muntin bars shall be of 1" removable Wood Grilles (painted black on glass side) with optional adhesive tape application. Exterior surfaces finished to match window cladding. Interior surfaces unfinished, ready for site finishing.
- I. Between-the-Glass Blinds: Mini-Blind system is concealed between the insulated glass unit and a removable interior glass pane (Triple Glazed). Finish for slats to be of epoxy paint with polyester UV high resistant finish. Slat finish to be white, sand. Uses magnetic slide and helix assembly for easy tilt operation.

2.03 HARDWARE

- A. Operator: Constructed of E-Gard™** components, hardened steel worm and gear arm and high-pressure zinc alloy die-cast base.
- B. Hinges: Constructed using slide and pivot design, with a low friction slide shoe and stainless steel track. Sash arms to be constructed of E-Gard™** components for enhanced corrosion protection.
- C. Locks: Constructed of high-pressure zinc alloy die-castings and E-Gard™** Hardware internal components. Finish shall be Phosphate coated, electrostatically painted baked enamel/white, baked enamel/beige, plated 13 brass/clear coat. Folding crank handles and Tee handles are also available.

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 Manufacturer's Association)

2.05 FINISH

- A. Exterior Finish: Exterior aluminum surfaces shall be finished with a baked on Polyester-based, electrostatically applied paint. Meets or exceeds standards required by AAMA 2603-98. Color shall be white, sand, bronze, vanilla, or special**.
- B. Interior Finish: Unfinished ready for site finishing.

PART 3 EXECUTION

3.01 INSTALLATION

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- 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 $\frac{1}{8}$ " 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, and 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.

3.02 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 discoloration or damage to painted surfaces. Clean contaminated surfaces immediately after contact.
- C. Remove non-permanent labels from glass surfaces per manufacturer's installation and 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.

SunClad Heritage Casement Products: Test Data											
Product Name	Size	DP (psf)	Air (psf)	Water (psf)	Structural (psf)	Structural Load (mph)	U-Value	R-Value	Solar Heat Gain Coef.	Visible Light Trans.	Condensation Resistance
SunClad Heritage Casement	24" x 55"	15	<0.01	9.0	37.5	94	0.38	2.63	0.28	0.46	54
SunClad USA Fixed Lite	72" x 72"	15	<0.01	9.0	22.5	94	0.38	2.63	0.28	0.46	58