



Series 8000NT DA-AW70/HC70 Dual Action Window

SECTION 085113

PART 1 – GENERAL

1.01 GENERAL SCOPE

- A. Furnish all labor, materials, tools and equipment required to complete the window project as shown on the architectural drawings and as specified in 085113 and other related sections.
- B. Renovation Projects: Removal of existing windows, sash, or vents as required by the project documents.
- C. New Construction Projects: Position the new windows and attachment systems into the openings as indicated by the architectural drawings.
- D. Provide factory glazed, fully thermally broken aluminum windows and all additional components and systems as required by this specification and the architectural drawings.

1.02 INDUSTRY REFERENCES

AAMA - American Architectural Manufacturers Association
AAMA 502-02 "Voluntary Specification for Field Testing of Windows and Sliding Glass Doors"
AAMA 2604-05 "Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels"
AAMA 701/702-04 "Voluntary Specification for Pile Weatherstripping & Replaceable Fenestration Weatherseals"
AAMA 800-05 "Voluntary Specifications and Test Methods for Sealants"
AAMA 902-99 "Voluntary Specification for Sash Balances"
AAMA 1503-98 "Voluntary Test Method for Condensation Resistance of Windows, Doors, and Glazed Wall Sections"
AAMA CW-10-04 "Care and Handling of Architectural Aluminum from Shop to Site"
CSI – Canadian Standards Association
WDMA – Window & Door Manufacturers Association
AAMA/WDMA/CSA 101/I.S.2/A440-05 "Standard/Specification for Windows, Doors, and Unit Skylights"
ASTM - American Society for Testing and Materials
ASTM C 1036-06 "Standard Specification for Flat Glass"
ASTM C 1048-04 "Standard Specification for Heat-Treated Flat Glass"
ASTM E 90-04 "Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements"
ASTM E 283-04 "Standard Test Method for Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors"
ASTM E 330-02 "Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference"
ASTM E 331-00 "Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Uniform Static Air Pressure Difference"
ASTM E 547-00 "Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Cyclic Static Air Pressure Differential"
ASTM E 774-97 "Standard Specification for the Classification of the Durability of Sealed Insulating Glass Units"

1.03 INDICATE PRODUCTS FURNISHED BUT NOT INSTALLED IN THIS SECTION

- A. (#) extra sets of glazed sash for each window size to be supplied and delivered to the project at job completion for storage and future needs.

1.04 INDICATE PRODUCTS INSTALLED BUT NOT FURNISHED IN THIS SECTION

- A. Install (#) supplied by (Name) into the new windows in the (Location) rooms as directed.
- B. Reinstallation of air conditioners in (#) windows as directed by the architect.
- C. Reinstall existing air-vents or ducts through (#) windows.
- D. Reinstall existing window treatments and/or blinds at each window.

1.05 RELATED SECTIONS

- A. Section 07190 - Vapor and Air Barriers
- B. Section 07900 - Sealants

1.06 QUALITY ASSURANCE

- A. Provide test reports from an AAMA accredited laboratory certifying the performance as specified in section 1.07 of this specification. Valid test reports shall be no more than four years old.
- B. To ensure that the windows provided for this project are exactly the same as the sample sent to the testing lab for certification the manufacturer shall be an active member in the AAMA Certification Program. All bidders must provide a current NOTICE OF PRODUCT CERTIFICATION from the AAMA administrator / validator, Associated Laboratories Inc. (ALI).
- C. Pre-Bid Qualifications: The basis of this specification is Champion Window and Door products located at 140 Eileen Way, Syosset, NY, 11791. All other bids must pre-qualify their products.



Series 8000NT DA-AW70/HC70 Dual Action Window

1.07 PRE-QUALIFICATION

Submit for pre-bid qualification approval ten days prior to the bid opening:

- A. A sample window matching the project criteria with the only exception being the color.
- B. Current test reports that conform to AAMA/WDMA/CSA 101/I.S.2/A440-05, less than 4 years old.
- C. Full size product and accessory details.
- D. Complete product specifications.
- E. The current NOTICE OF PRODUCT CERTIFICATION from the AAMA administrator validator, Associated Laboratories Inc. (ALI).
- F. Pre-qualified "equal" products will be confirmed in a written addendum.

1.08 SYSTEM DESCRIPTION

- A. AAMA/WDMA/CSA 101/I.S.2/A440-05 Designation: DA-HC70 and DA-AW70.
- B. Dual Action Windows are 2 7/8" frame depth; extruded aluminum with integral structural "insulbar" thermal break; equal-leg frame; factory-assembled.
- C. Configuration: Dual Action in combination with fixed panels. **(Any configuration within one master frame including a four-point intersection of horizontal & vertical mullions)**
- D. Glazing: Sash - 1" insulating glass with structurally glazed silicone interior perimeter sealant and silicone spacer gasket; factory-glazed. Fixed - 1" insulating glass with EPDM gasket in exterior and interior. **[Optional: Dual glazing with 1" insulating glass on the exterior and ¼" glass on an access panel]** See glass description in paragraph 2.04.
- E. Finish: The exposed surfaces of the aluminum members shall be clean and free from serious surface blemishes. The finish is to be electrostatically-applied painted conforming to meet AAMA criteria or dipped anodizing. **[Optional: Different interior and exterior finishes]** See Paragraph 2.06 for finish options.

1.09 PERFORMANCE REQUIREMENTS

- A. Conformance to **DA-AW70** specifications in AAMA/WDMA/CSA 101/I.S.2/A440-05 when tests are performed on the prescribed 36" x 60" minimum test size with the following test results:
 1. Air Infiltration Test: With the vent in a closed and locked position, the window shall be subjected to an air infiltration test in accordance with ASTM E 283. Air infiltration shall not exceed 0.08 cfm/ft² at 6.2 psf.
 2. Water Resistance Test: The window shall be subjected to a water resistance test in accordance with ASTM E 547 and E 331. There shall be no leakage at a static pressure of 15 psf.
 3. Design Pressure: Design pressure when tested per ASTM E 330 of 70 psf.
 4. Structural Load Test: The window shall be subjected to a positive and negative structural load test in accordance with ASTM E 330 at 105.33 psf with no damage.
 5. Forced Entry Resistance as per ASTM F 588 = Type B; Grade: 10.
- B. Conformance to **DA-HC70** specifications in AAMA/WDMA/CSA 101/I.S.2/A440-05 when tests are performed on the prescribed 36" x 60" minimum test size with the following test results:
 1. Air Infiltration Test: With the vent in a closed and locked position, the window shall be subjected to an air infiltration test in accordance with ASTM E 283. Air infiltration shall not exceed 0.07 cfm/ft² at 6.2 psf.
 2. Water Resistance Test: The window shall be subjected to a water resistance test in accordance with ASTM E 547 and E 331. There shall be no leakage at a static pressure of 15 psf.
 3. Design Pressure: Design pressure when tested per ASTM E 330 of 70 psf.
 4. Structural Load Test: The window shall be subjected to a positive and negative structural load test in accordance with ASTM E 330 at 105.33 psf with no damage.
 5. Forced Entry Resistance as per ASTM F 588 = Type B; Grade: 10.

PART 2 – PRODUCTS

2.01 APPROVED MANUFACTURERS

Champion 8000NT Dual Action Window

2.02 MATERIALS

- A. Aluminum: Aluminum shall be of commercial quality and of proper alloy and temper for window construction, free from defects impairing strength and durability. All extruded sections shall be of 6063-T5 or 6063-T6 and shall have a minimum ultimate tensile strength of 22,000 psi and a yield of 16,000 psi.
- B. Window Members: Main frame and sash members shall have a nominal wall thickness of not less than .125". Main frame and sash members shall have an overall depth of not less than 2.832 inches. Frame sill shall have a nominal wall thickness of .125".
- C. Fasteners: All screws and other miscellaneous fastening devices incorporated in the product shall be stainless steel or other corrosion-resistant material(s) compatible with aluminum and of sufficient strength to perform the functions for which they are used.
- D. Hardware: Provide lever handle mounted to sash interior without exposed screws. Handle shall activate a concealed slide bar connected to multiple locking points on the frame as required by window size. Lever handle to allow operation of the sash to tilt with approx. 6" opening at top for ventilation, and to open as inswing casement for cleaning purposes. **[Optional: Window units shall be equipped with a limit**



Series 8000NT DA-AW70/HC70 Dual Action Window

device to prevent the window from opening more than a specified clear opening.] Provide butt hinges with stainless steel pins, minimum 0.250" in diameter. Attachment of hinges to the sash and main frame shall be by means of stainless steel machine screws.

- E. Hardware having component parts, which are exposed, shall be of aluminum, stainless steel or other non-corrosive material(s) compatible with aluminum and of sufficient strength to perform the functions for which they are used. Cadmium or zinc-plated steel, where used, shall be in accordance with ASTM A 165 or B 633. Nickel or chrome-plated steel, where used, shall be in accordance with ASTM B 456.
- F. Weather-stripping: Weather-stripping shall meet the requirements of the specifications as detailed in the appropriate test report. All weather-stripping shall be installed so that there is no metal-to-metal contact between the master frame and the sash. All weather-stripping shall be installed in specially-extruded ports and secured to prevent movement, shrinkage, or loss when removing sash either for cleaning or repair.

2.03 FABRICATION

- A. Assembly: The windows shall be assembled in a secure and professional manner to perform as herein specified and to assure neat and weather tight construction. All main frame vent construction is mitered, keyed, crimped, with sealed corners.
- B. Thermal Barrier: All main frames shall be thermally broken by the "insulbar" method. The thermal barrier material shall be of "insulbar" with ultimate tensile strength to meet or exceed ASTM D 638.
- C. Glazing: The vent shall have a continuous 1/4" bead of structural silicone on the glazing legs. Glass shall be set into the glazing pocket square with the vent and shall have setting blocks set between the glass and the vent frame creating equal spacing all around. Snap on glazing beads on the vents are not permitted. Continuous wedge gasket is not acceptable.

2.04 GLASS AND GLAZING MATERIALS

- A. Construction: Provide hermetically sealed insulating glass units. All stainless steel spacers to be continuous with bent corners and containing a hot melt butyl. Plastic corner keys will not be accepted.
- B. Exterior glass lite
 - 1. Thickness: 1/4" **Optional: (3/16" or 1/8" may be used, however structural performance will be limited to the capability of the glass).**
 - 2. Tint: clear. **Optional: (Grey, Bronze, Green)**
 - 3. Type: Annealed **Optional: (Heat Strengthened, Tempered)**
 - 4. Coating: **Optional: (Pyrolytic Low-E on #2 surface)**
- C. Interior glass lite
 - 1. Thickness: 1/4" **Optional: (3/16" or 1/8" may be used, however structural performance will be limited to the capability of the glass).**
 - 2. Tint: clear. **Optional: (Grey, Bronze, Green)**
 - 3. Type: Annealed **Optional: (Heat Strengthened, Tempered)**
 - 4. Coating: **Optional: (Pyrolytic Low-E on #3 surface)**
- D. **Optional: Dual Glazing (Non-Sealed glass)**
 - 1. Provide non-hermetically sealed lites of glass.
 - 2. Glass lites to be **(Select from glass choices above and include here).**
- E. Performance
 - 1. Seal durability: conformance to ASTM E 774; visible, ALI certification for CBA rating level.

2.05 OTHER GLASS AND GLAZING MATERIALS – ALUMINUM INSULATED PANELS

- A. 1" Insulating Panel with corrugated polyallomer stabilizers and Aluminum Skin on the interior and exterior. Core to be polystyrene. **[Optional: Other panel, Spandrel Glass, etc.]**

2.06 FINISH ON ALUMINUM EXTRUSIONS

- A. Metal Application: Apply finish on clean extrusions free from serious surface blemishes or scratches. Finish exposed surfaces visible when the installed product's operating sash is closed.
- B. Finish to be PPG Duracron, which meets AAMA 2603. **[Optional: Acranar 50% Kynar AAMA 2604, Duranar 70% Kynar AAMA 2605, Duranar XL]**
- C. Quality standard: conforming to AAMA 2603. **[Optional: 2604, 2605]**
- D. Pretreatment: five-stage; zinc chromate conversion coating.
- E. Application: an approved applicator using a factory-based electrostatic spray and oven bake system.
- F. Coating quantity: one color coat.
- G. Dry film thickness: minimum .7 mils **[Optional: 1.4 mil Acrynar, 1.2 mils Duranar]** on exposed surfaces, except inside corners and channels.
- H. Color: chosen from manufacturer's standards. **[Optional: custom color to be selected.]**

Standard Clear Anodized Finish:

- A. AAM12C22A31 Class II (A3) Clear Anodized finish (.4mils).

Optional Anodized Finish:

- A. AAM12C22A31 Class I (A4) Clear Anodized Finish (.7 mils).
- B. Color: (Light Bronze) (Medium Bronze) (Dark Bronze) (Black)

2.07 AIR CONDITIONERS

- A. Provide A/C sashes and A/C kits to the following windows:
- B. **[Optional: Provide A/C sleeves by a designated manufacturer. Include Manufacturer's name and Model number.]**



Series 8000NT DA-AW70/HC70 Dual Action Window

PART 3 – EXECUTION

3.01 PROJECT SUBMITTALS

Provide project submittals per the following:

- A. Product Data: Submit manufacturer's specifications, recommendations and standard details for aluminum window units, including certified test laboratory reports as necessary to show compliance with requirements.
- B. Shop Drawings: Submit shop drawings, including location floor plans or exterior wall elevations showing all window openings, typical unit elevations, and full size detail sections of every typical composite member. Indicate the type of anchors, hardware, operators and other components not included in manufacturer's standard data. Include glazing details and standards for factory glazed units.
- C. Samples: Submit three samples of each required aluminum finish on a metal panel sample or a 6-inch long section of extrusion.

3.02 DELIVERY, STORAGE, AND HANDLING

- A. Handle all windows and accessories in accordance with AAMA CW-10.
- B. Protect the windows and accessories from the elements, construction activities, and other hazards until the project is complete.

3.03 PROJECT SITE INSPECTION

- A. Field verify that the existing window openings are within tolerance, plumb, level, clean, and provide a solid anchoring surface and substrate. Also confirm that the openings and are in accordance with approved shop drawings.

3.04 INSTALLATION

- A. Install all of the Aluminum windows and accessories with skilled installers in accordance with all of the manufacturer's recommendations, project documents, and the approved shop drawings.
- B. All window openings must be covered and secure at the end of each workday.
- C. Provide the required shims and blocking and fasten the frames to the opening.
- D. Set each window plumb, level and square, without twisting or bowing the frames.
- E. Pack fibrous insulation into voids at the window frame perimeter as requested on the architectural drawings.
- F. Apply sealant at joints and all required metal to metal intersections and the window perimeter as required. Follow the sealant manufacturer's recommendations listed in their manufacturer's data sheets.

3.05 DISPOSAL OF DEBRIS

- A. Remove all garbage off site and legally dispose of existing windows and debris generated from the installation of the new windows.

3.06 OPTIONAL FIELD TESTING

- A. Conduct all on-site testing of installed units in conformance with AAMA publication number 502 Voluntary Specification for Field Testing of Windows and Sliding Glass Doors. Conduct air and water infiltration testing with the window manufacturer, contractor, and owner present.
- B. An AAMA accredited lab will be hired by the owner to perform the required testing.

3.07 ADJUSTMENT AND CLEAN UP

- A. Adjust all products, sash, vents, and hardware after installation, as necessary to provide proper operation and a weather tight installation
- B. Remove any labels and dirt from the window.

END OF SECTION 085113