

DIVISION 08 / SECTION 08505 METAL WINDOWS
SILVER LINE BUILDING PRODUCTS

SPECIFICATIONS:

**Series 1700 Heavy Commercial Aluminum Double Hung
HC65 48"x84" / HC50 60"x96" Replacement Window**

GENERAL

1. SECTION INCLUDES

1. All windows of the types and sizes as called for in this specification shall be furnished with all necessary hardware and miscellaneous equipment as herein specified and shall be manufactured by **Silver Line Building Products, Inc.**

2. RELATED SECTIONS

1. Section 01340 - Shop Drawings, Product Data and Samples.
2. Section 01610 - Delivery, Storage and Handling.
3. Section 01710 - Final Cleaning: Glass cleaning.
4. Section 07900 - Joint Sealers: Perimeter sealant and back-up materials.
5. Section 08800 - Glazing.

3. QUALITY ASSURANCE

A. General.

1. Provide AAMA 101 notice of product certification in full accordance with the following:
 - a. Aluminum Double Hung Window to be Silver Line Series 1700 (insulated glass), H-HC65/HC50.
2. Test sequence is optional except air infiltration test shall precede water resistance test and uniform load structural test shall be performed at the end of sequence.

B. Test Units.

1. Perform all tests as listed below in accordance with current revision of AAMA 101.

C. Test Procedures.

1. Air Infiltration Test – by Independent AAMA Certified Laboratory (Manufacturer's Facility May Be Utilized).
 - a. With window glazed, sash closed and locked, mounted vertically, test in accordance with ASTM E283-91 at a static pressure of 1.56 psf (25 mph). Air infiltration shall not exceed maximum 0.2 cfm per square foot of window area.
2. Water Resistance Test - by Independent AAMA Certified Laboratory (Manufacturer's Facility May Be Utilized).
 - a. With window glazed, sash closed and locked, mounted vertically, test in accordance with ASTM E547-93 (four cycles) and ASTM E331 at the static pressure of 10.5 psf. There shall be no uncontrolled water leakage as defined in ASTM E547-93 and ASTM E331.

3. Uniform Load Test – Design Wind Load Test by Independent AAMA Certified Laboratory (Manufacturer’s Facility May Be Utilized).
 - a. Test with window glazed, sash closed and locked, mounted vertically in accordance with ASTM E330-90.
 - b. There shall be no glass breakage, permanent damage to fasteners or hardware parts, or damage to make window inoperable when tested at a design load of ± 65 psf on a 48” x 85” window and ± 50 psf on a 60” x 97” window
4. Uniform Load Structural Overload Test – by Independent AAMA Certified Laboratory (Manufacturer’s Facility May Be Utilized).
 - a. With window glazed, sash closed and locked, mounted vertically test in accordance with ASTM E330-90.
 - b. When tested at ± 97.5 psf on a 48” x 84” window and ± 75 psf on a 60” x 96” window, there shall be no glass breakage, permanent damage to fasteners or hardware parts, damage to make window inoperable, or permanent deformation of any main frame or ventilator section in excess of 0.4% of its unsupported span.

4. REFERENCES

A. American Society of Testing Materials (ASTM):

1. ASTM C 509-94 Specification for Elastomeric Cellular Preformed Gasket and Sealing Material.
2. ASTM B 633-85 Specification for Electrodeposited Coatings of Zinc on Iron and Steel.
3. ASTM B 766-86 Specification for Electrodeposited Coatings of Cadmium.
4. ASTM B 456-94 Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium.
5. ASTM C 1036-91 Specification for Flat Glass.
6. ASTM E 774-92 Specification for Sealed Insulated Glass Units.

B. American Architectural Manufacturers Association (AAMA):

1. AAMA 701-92 Voluntary Specification for Pile Weatherstripping.
2. AAMA 800-92 Voluntary Specification and Test Methods for Sealants.
3. AAMA 1302.5-1976 Voluntary Specification for Forced-Entry Resistant Aluminum Prime Windows.
4. AAMA 902-94 Voluntary Specification for Sash Balances.

5. SUBMITTALS

- A. Shop Drawings: Submit shop drawings under provision of Section 01340 (as required).
- B. Product Data: Submit product data under provision of Section 01340 (as required).
- C. Submit full window sample under provisions of Section 01340.
 1. Include glazing system, quality of construction and specified finish.

D. Quality Control Submittals (as required):

1. Certification: Submit performance test results reported by independent laboratory or manufacturer's statement of qualification indicating compliance with specified performance and design requirements.

6. DELIVERY, STORAGE AND HANDLING

- A. Comply with provisions of Section 01610.
- B. Store units in an upright position in a clean and dry storage area.
- C. Protect finish surfaces with wrapping or strippable coating. Do not use adhesive papers or sprayed coatings, which bond when exposed to sunlight or weather.

7. WARRANTY

- A. The installer shall assume full responsibility that the installation is in accordance with the specifications, contract documents and manufacturer specifications.
- B. Manufacturer's Warranty: Furnish manufacturer's Limited Lifetime Warranty on window products.

PRODUCTS

1. MATERIALS

1. The aluminum extrusions used shall be of commercial quality and of proper alloy and temper for window construction, free of defects impairing strength and durability.

2. COMPONENTS

A. MAIN FRAME AND SASH:

1. Main frame shall have a nominal wall thickness of not less than .062". The standard wall thickness tolerances as defined by the Aluminum Association shall apply. The main frame shall not be less than four (4.00) inches in depth.

B. WEATHERSTRIPPING:

1. Materials used within this window must be only of high quality, proven to be capable of meeting the environmental exposure and performance requirements of the application. When the following materials are used, they should meet the specification indicated.
2. Woven pile weatherstrip shall conform to AAMA 701-92.
3. Weatherstrip of closed cell elastomer shall meet ASTM C509.
4. Weatherstrip of dense elastomer shall meet ASTM C 864-90.

C. FASTENERS:

1. All screws and other miscellaneous fastening devices incorporated shall be of aluminum, stainless steel, or other non-corrosive material compatible with the aluminum extrusions. Cadmium or zinc plated steel, where used, shall be in accordance with ASTM B 766-86 or ASTM B 633-85. Nickel or chrome plated steel, where used, shall be in accordance with ASTM 456-94 type SC.

D. INSECT SCREENS:

1. Insect screens frames shall be of tubular roll formed aluminum or extruded aluminum and be manufactured in accordance with Silver Line Building Products approved design. Insect screen frames will be color matched to the window color. The screens will incorporate fiberglass screen cloth of 18 x 16 mesh held in the frame by vinyl screen spline.
2. Aluminum screen cloth of 18 x 16 mesh held in the frame by vinyl screen spline shall be optional.

E. FINISH:

1. The exposed surfaces of all members shall be clean and free from all but minor surface blemishes. Exposed aluminum surfaces shall be cleaned and coated with an organic coating in accordance with current AAMA 603 to a total dry film thickness of .8 mil.

F. GLASS AND GLAZING MATERIALS

1. INSULATED GLASS:

- a. The assembled insulated unit shall be one inch (1") high performance. Assembly shall conform to ASTM E 774-92, level A.
- b. Tempered glass shall conform to ASTM C 1048-91.
- c. Annealed glass shall conform to ASTM C 1036-91.

2. GLAZING MATERIALS:

- a. The insulated glass units will be secured to the window frame by a flexible vinyl marine-style wrap around glazing gasket.

G. HARDWARE

1. Hardware having component parts which are exposed shall be aluminum, stainless steel or other non-corrosive material compatible with the aluminum extrusions. Cadmium or zinc plated steel, where used, shall be in accordance with ASTM B 766-86 or ASTM B 633-85. Nickel or chrome plated steel, where used, shall be in accordance with ASTM 456-94 type SC.

H. DOUBLE HUNG COUNTER BALANCE MECHANISMS:

1. Primary double hung balances shall be of appropriate size and capacity to hold the sash stationary in any open position. Sash balances shall be of the block-and-tackle type or optional spiral type and easily accessible for repair or replacement in the field. Balances shall be in accordance with AAMA 902-94.

A. DOUBLE HUNG LOCKS:

1. Sashes shall be capable of being locked by installed cam-type locks meeting AAMA 1302.5 forced entry specification. Locks will be color keyed to the window's interior color and attached to the sash with color keyed screws anchored through the locks into the sash.

EXECUTION

1. EXAMINATION

A. VERIFICATION OF CONDITIONS:

1. 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:

1. Beginning of installation means acceptance of existing conditions.

2. INSTALLATION

- A. The window will be secured in the rough opening in accordance with the manufacturers instructions and/or accepted industry practice. All windows are to be installed level and plumb. A permanent weather tight seal must be applied between the window frame and the building substrate at the time of installation. The windows are to be secured to the opening with #8 or larger fasteners, as is standard practice, applied through the window main frame members.
- B. Install sealant and related backing materials at perimeter of assembly in accordance with Section 07900 Joint Sealers. Do not use foam sealant.

3. ADJUSTING AND CLEANING

- A. Adjust operable sash to work freely with all hardware functioning properly. Readjust at completion of the project if directed.
- B. Remove all visible labels except permanent identification on labels per manufacturer's recommendations.
- C. Leave windows in a job-clean condition. Final cleaning of glass will be done under section 01710.

4. PROTECTION

- A. Cover windows during spray painting or other construction operations that might cause damage.

END OF SECTION