

Service Aluminum Specifications for Series 200

1. General

1.1. Description

- 1.1.1. Series 200 is a commercial 2" Fixed, Projected, and Casement window system used for both commercial and residential applications. We have a full complement of frames including equal leg, short equal leg, nail on, and retrofit. The Series 200 is tested at AP-HC40 in accordance with AAMA/NWWDA 101 I.S. 2-97. All units are to be built by Service Aluminum Company, Inc., Santa Fe Springs, CA.
- 1.1.2. Work includes furnishing labor, materials, hardware and other related components as specified within the following pages to complete the installation of the project drawings.

2. Performance Requirements

2.1. Standards

- 2.1.1. The 200 Series is tested at AP-HC40 in accordance with AAMA/NWWDA 101 I.S. 2-97 and must perform at this level or exceed this level.

2.2. Air infiltration test

- 2.2.1. Tested in accordance with ASTM E283-97 with a static air pressure of 6.24 psf. Air infiltration shall not exceed .3 CFM per foot.

2.3. Water infiltration Test

- 2.3.1. Tested in accordance with ASTM E 547-93 and ASTM E 331-93 at 9.00 PSF with no uncontrolled water leakage.

2.4. Uniform Load Structure at 150% Design Load

- 2.4.1. Tested in accordance with ASTM E 330-90 at static air pressure of 90 psf positive and negative load with no glass breakage, permanent damage to fasteners, or hardware parts, or damage to make window inoperable.

2.5. Torsion Test

- 2.5.1. Tested in accordance with AAMA/NWWDA 101.IS2-97 para 2.2.4.5.3. Deflection at unrestrained corner shall not exceed 1.625" for project out units with a concentrated load of 15 lbf. Deflection measured at 1.04".

2.6. Forced Entry Load Test

- 2.6.1. Tested in accordance with AAMA 1302.5-76. 150 pounds of lateral load did not open sash.

2.7. Concentrated Load Tests

- 2.7.1. Tested in accordance with AAMA/NWWDA 101/IS2-97 para 2.2.4.5.4 & 2.2.4.5.5. Concentrated load of 30 lbf and deflection not to exceed .06".

2.8. Balance Arm Load test

- 2.8.1. Tested in accordance with AAMA/NWWDA 101/IS2-97 2.2.4.5.8. Concentrated load of 60 lbf for one minute to maximum opening with no damage and normal function.

3. Submittals

- 3.1.1. Contractor shall submit shop drawings; finish samples, test reports, and warranties.
- 3.1.2. Samples of materials as may be requested without cost to owner, i.e., metal, glass, fasteners, anchors, frame sections, mullion section, corner section, etc...

4. Materials

4.1. Aluminum

- 4.1.1. Extruded Aluminum shall be 6063-T5 aluminum alloy with a minimum wall thickness of .125".

4.2. Hardware

4.2.1. Project in and Project out Ventilator Standard

4.2.1.1. Four Bar Hinge (AAMA certified to 904.01) is stainless steel as well as strikes for project in units, and all screws. All locking handles and strikes for project out are white bronze.

4.2.2. Casement Ventilator Standard

4.2.2.1. Butt Hinges are aluminum alloy 6063-T5. Arms are corrosion protected steel and stainless steel. Roto operators are white bronze.

4.3. Weatherstrip

4.3.1. All ventilators shall have an interior and exterior bulb seal of Sanoprene™ or equal to meet ASTM C509-70.

4.4. Screens

4.4.1. Extruded Aluminum shall be 6065-T5 aluminum alloy with a minimum wall thickness of .060".

4.4.2. Screen mesh is charcoal fiberglass mesh with plastic wickets when necessary. Aluminum Mesh is also available.

5. Fabrication

5.1. General

5.1.1. All aluminum frame and operating sash extrusions shall be no less than 2" thick.

5.2. Frame

5.2.1. All frames shall be mitered, reinforced with an extruded aluminum corner, welded, and sealed weather tight.

5.3. Projected Ventilator

5.3.1. All operating sashes are tubular extrusions

5.3.2. All operating sashes shall be mitered, reinforced with an extruded aluminum corner, welded, and sealed weather tight.

5.4. Finishes

5.4.1. Anodized Finishes

5.4.1.1. Finish all exposed areas of aluminum windows in accordance with the appropriate AAMA specifications:

AA-M12-C22-A31	Class II Clear Anodized .4 mil
AA-M12-C22-A41	Class I Clear Anodized .7 mil
AA-M12-C22-A34	Class II Dark Bronze .4 mil
AA-M12-C22-A44	Class I Dark Bronze .7 mil

5.4.2. Painted Finishes

5.4.2.1. Finish all exposed aluminum with electrolytically deposited color in accordance with the AAMA specification:

AA-M12-C10-R1X Kynar 70%

5.5. Glazing

5.5.1. Shop and Field glazed units are provided with glazing tape, appropriate extruded glazing bead, and a wedge gasket.

5.5.2. Factory glazed units will use glass as specified by the Architect or General Contractor and will be caulked the edge of the glass to the frame in a continuous seal with Dow Corning 795 or equivalent to meet ASTM Specification C 920 Type S, Grade NS, Class 25. A cap bead will also be included on the opposite side of the vinyl.

5.5.3. If field glazed, refer to Section 08 81 00 for Glass and Glazing.

6. Execution and Installation – See Installation Instructions

6.1. Use only skilled tradesman for the installation of aluminum windows in accordance with approved drawings and specifications.

- 6.2. Install square, plumb and align window faces in a single plan for each wall plane.
- 6.3. Anchor frames securely to continuous construction for a rigid installation in accordance with required safety guidelines.
- 6.4. Adjust windows for proper operation after installation.
- 6.5. Furnish and seal perimeter on both sides between frames and adjacent materials.
- 6.6. Recommend cap bead between glass and aluminum window for field glazed units.

7. Protection and Cleaning– See Cleaning and Maintenance Details

- 7.1. Upon installation, inspect all units, put in working order, and clean metal and glass surfaces with mild soap and water. Do not use abrasives.

8. Field Testing

- 8.1. There is no other specific guarantee regarding weather performance of the field test results. Any field testing performed must be per AAMA 502-90, Test Method A, and performed “Immediately after installation” as required in paragraph two of Short Form Field Specifications on the inside cover by an AAMA accredited testing agency.
- 8.2. Cost for all successful tests, both original and retest shall be paid by the owner. All unsuccessful tests, both original and retest, shall be paid by the responsible contractor.
- 8.3. Field test results will not be considered valid unless performed within four (4) weeks of installation.
- 8.4. Air infiltration field tests shall be conducted at the same uniform static test pressure as the laboratory test unit. The Maximum allowable rate of air leakage shall not exceed 1.5 times the laboratory test unit for hardware and glazing types consistent with the laboratory test unit. Performance values may be reduced due to deviations from the laboratory test unit such as product size, configuration, hardware selected, and glazing configuration. The field test air leakage rate shall not exceed 1.5 times the maximum allowable laboratory performance specified in the testing criteria listed in Section 1.05.A.1 for any configuration.
- 8.5. Water penetration field tests shall be conducted at a static test pressure of 2/3 of the laboratory test performance values for hardware and glazing types consistent with the laboratory test unit. Performance values may be reduced due to deviations from the laboratory test unit such as product size, configuration, hardware selected, and glazing variations. The field test water test pressure shall not be less than 2/3 of the minimum allowable laboratory performance specified in the testing criteria listed in Section 1.05.A.1 for any configuration.

Cleaning and Maintenance of Aluminum Window Frames

PLEASE NOTE: FAILURE TO FOLLOW THESE INSTRUCTIONS WILL VOID ANY MANUFACTURER’S WARRANTY WHETHER STATED OR IMPLIED.

I. General Instructions

- A. Service Aluminum recommends professional cleaning companies be employed to perform initial cleaning process.
- B. Products should be cleaned when shaded, and never cleaned when temperatures are colder than 50° Fahrenheit.

II. Initial Cleaning

- A. At time of initial installation, all surfaces should be cleaned with soapy water and a soft cloth or sponge until all debris and dirt is removed. Rinse and repeat as needed. Ensure that all weep and drain holes are not blocked.
- B. If additional cleaning is necessary, the follow methods apply:

1. Anodized Finishes

- a. 3 methods to be tried in descending order for stubborn debris
 - a. Isopropyl alcohol, with moderate pressure in a circular motion to the specific areas needing cleaning.
 - b. Lacquer thinner, a minimal amount of may be used with a rag. (Please follow manufacturer’s instructions and warnings before use.)
 - c. “Non-abrasive” sink cleanser such as “Soft Scrub.” Test in inconspicuous place.
- b. Do not use any chemicals on rubber or plastic surfaces.

2. Painted Finishes

- a. 2 methods to try in descending order for stubborn debris
 - a. Isopropyl alcohol, with moderate pressure in a circular motion to the specific areas needing cleaning.
 - b. “Non-abrasive” sink cleanser such as “Soft Scrub.” Test in inconspicuous place.

III. Monthly Cleaning

- A. *Within 5 miles of the coast*, all products should be cleaned monthly using methods listed above.
- B. At time of cleaning, visually inspect all units for water leaks and to ensure all weep holes are not blocked and that all components are in good working order.

IV. Semi-annual Cleaning (every 6 months)

- A. Same maintenance instructions as above, but for all locations not only within 5 miles of the coast.

V. Every 5th year Cleaning & Maintenance

- A. Continue to follow monthly maintenance instructions
- B. Sealants should be reapplied in all frame corners as they may break down over time. (It is recommended to hire a professional glazing company.)
 - 1. Remove all exposed sealant in each frame corner and reseal.
 - 2. After sealant has dried, check for water leaks
 - 3. Replace all components.

VI. Maintenance after cleaning

- A. To prolong the life of the aluminum finishes, both anodized and painted, Service Aluminum recommends applying car wax to clean, dry finishes. This prolongs life and improves appearance. Follow manufacturer's instructions.
- B. After cleaning ensure all major components are in good working order and are lubricated (if applicable)
 - 1. Handles can be waxed in addition to the frames.
 - 2. For roto operators arms, gears, and/or hinges, ensure that the areas is completely dry and spray all exposed areas with wet silicone spray. Use a straw applicator for all seams and cracks. Replace any parts that show signs of corrosion or damage.

VII. Additional Notes

- A. Aluminum requires reasonable care prior to and during installation and periodic cleaning and maintenance. The finishes can be marred by harsh chemicals, rough conditions, or neglect. Such conditions usually affect only the surface finishes and do not reduce the service life of the aluminum. However, the marks resulting from such mistreatment may be permanent. Surfaces will collect soil and dirt, and the owner's attitude regarding surface appearance determines the type of frequency of cleaning required.
- B. Some areas of the may become more heavily soiled due to lack of rain washing, and they may have frequent and longer periods of condensation in protected areas increasing the adhesion of the soil. Some areas to watch for these issues include soffit areas on overhangs, bottom areas of fascia panels, sheltered column covers, etc... Periodic maintenance inhibits long term accumulation of soil which may accelerate the weathering of the finish. The more frequently the aluminum is cleaned; succeeding maintenance will be easier and less costly.

NOTE: IF GLASS IS INSTALLED BY SERVICE ALUMINUM, ONLY THEN WILL SERVICE ALUMINUM PROVIDE MAINTENANCE INSTRUCTIONS FOR THE GLASS.

- a) The following limited warranty applies only to product that has been paid for in full.
- b) There is no warranty applicable, whatsoever, to product that has not been paid for in full.
- c) The following limited warranty is based upon the product price quote provided to Buyer. A more extensive warranty can be provided by Seller contingent upon Buyer's request to quote the purchase of the product based upon a more extensive warranty.
- d) The following limited warranty covers only the product manufactured by Seller.
- e) The following limited warranty does not apply to and no warranty is provided for oversized units, third party manufactured parts, or installation of the product.

Warranty

Seller's products have been tested in accordance with Seller's specifications. Seller warrants that its products will perform in accordance with Seller's specifications. This warranty shall be provided only for a period of one (1) year after the date of shipping (the 'Warranty Period'). This warranty shall apply only to the original purchaser unless Buyer is authorized by Seller to resell the goods, in which event this warranty shall apply only to the first repurchase.

During the Warranty Period, Seller will promptly replace or repair the goods that do not conform to Seller's specifications or, at Seller's option, refund the purchase price for any nonconforming goods sold to Buyer.

Seller warrants that the product conforms to the drawings and specifications provided to Seller by Buyer (reasonable variances and tolerances not impairing the usefulness thereof shall be allowed); however, SELLER DISCLAIMS ANY LIABILITY RESULTING FROM SUCH INFORMATION, except for the obligation under the warranty provided above to replace or repair the product or, at Seller's option, to refund the purchase price to Buyer.

SELLER MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND SELLER DISCLAIMS ANY WARRANTY OF ANY OTHER KIND, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

BUYER AND SELLER AGREE THAT THE SOLE AND EXCLUSIVE REMEDY FOR NONCONFORMING GOODS SHALL BE REPLACEMENT OR REPAIR OF DEFECTIVE GOODS OR, AT SELLER'S OPTION, REFUND OF THE PURCHASE PRICE TO BUYER. The parties acknowledge that the price of Seller's products would be much greater if Seller undertook more extensive liability. Seller's liability under any circumstances is limited to the purchase price of the product claimed to be defective. Seller shall not be liable for back charges nor for work performed or product delivered by anyone other than Seller in connection with the installed product except when authorized in writing over the signature of an officer of Seller.

This warranty shall not apply to damage resulting from (i) loss or damage in transit, (ii) unreasonable use, (iii) Buyer's negligence, (iv) Installer's negligence, or (v) accident. Seller hereby disclaims all liability and no warranty is provided for oversized units, third party manufactured parts, installation of the product, and any particular application or selection of the product for any particular product or design. Without limiting the generality of the foregoing, Seller specifically disclaims any liability or warranty for goods resold in other than Seller's original packages, and for goods modified, altered, or treated by customers. Seller reserves the right to examine the alleged defective goods to determine whether the warranty is applicable.

Buyer and Seller agree to mediate any dispute or claim arising between them out of this Agreement, or any resulting transaction, before resorting to arbitration. Mediation fees, if any, shall be divided equally among the parties involved. Buyer and Seller agree that any dispute or claim in Law or equity arising between them out of this Agreement or any resulting transaction, which is not settled through mediation, shall be decided by neutral, binding arbitration. The arbitrator shall be a retired judge or justice, or an attorney with at least five years of business law experience, unless the parties mutually agree to a different arbitrator, who shall render an award in accordance with substantive California Law. In all other respects, the arbitration shall be conducted in accordance with Part III, Title 9 of the California Code of Civil Procedure. Judgment upon the award of the arbitrator(s) may be entered in any court having jurisdiction, the parties shall have the right to discovery in accordance with Code of Civil Procedure §1283.05. In any action, proceeding, or arbitration between Buyer and Seller arising out of this Agreement, the prevailing party shall be entitled to reasonable attorney's fees and costs.

Any action by Buyer for any alleged breach of the warranty stated herein must be brought within ninety (90) calendar days after the end of the applicable Warranty Period. Any dispute that arises under or relates to this limited warranty (whether contract, tort, or both) shall be resolved in the County of Orange, State of California. This limited warranty, and any dispute arising from the relationship between the parties to this limited warranty, shall be governed by California law, including any laws that direct the application of another jurisdiction's laws.