

Service Aluminum Specifications for Series 150

1. General

1.1. Description

- 1.1.1. Series 150 is a commercial 1 ½” 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 150 is tested at AP-C30 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 150 Series is tested at AP-C30 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 1.57 psf with .05 CFM/C1 for project out units and .17 for project in units. Air infiltration shall not exceed .37 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 4.50 PSF with no uncontrolled water leakage.

2.4. Uniform Load Structure

- 2.4.1. Tested in accordance with ASTM E 330-90 at static air pressure of 45 psf positive and negative load with no glass breakage, permanent damage to fasteners, or hardware parts, or damage to make window inoperable.

2.5. Ventilator Torsion Test

- 2.5.1. Deflection at unrestrained corner shall not exceed 1.94” for project out units and .97” project in units

2.6. Hardware Load Test

- 2.6.1. Deflection at point of load application shall not exceed 3.500”.

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 1 ½" 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.