



**SERIES 9100 (WINDOW WALL)  
THERMALLY BROKEN ALUMINIUM  
CASEMENT / AWNING / FIXED**



5. The fixed window thermal transmittance U-value shall be 0.44 BTU/ hr\* $\text{ft}^2$ \*°F (2.5 W/m<sup>2</sup>\*K) when tested in accordance with AAMA 1503.1 and CAN/CSA-A440.2.  
Window shall be tested and labeled to N.F.R.C. standard 100 & 200 2004.  
(Note to specifier: Thermal performance depends on glass specified. Above test was preformed using 37mm double glazed insulated glass unit with low E-coating on surface #2, air filled with aluminum spacer bar and a test size of 47 1/4" x 59 1/16" (120cm x 150cm).)

Casement and Awning Windows shall meet performance class C/AP-AW50 when tested to AAMA/ WDMA/ CSA 101 I.S.2/ A440-05:

1. Operable window air infiltration shall not exceed 0.05 cfm/ft<sup>2</sup> (0.01 L/s\*m<sup>2</sup>) when tested in accordance with ASTM E 283-91 with a pressure difference of 6.24 PSF (300 Pa).
2. There shall be no water infiltration for operable window when tested in accordance with ASTM E547 with a pressure difference of 16.7 PSF 800 Pa (Laboratory Test) and 10.4 PSF/ 500 Pa (Field Test).
3. Structural performance shall be based on CSA Standard CAN3-S 157 "Strength Design in Aluminum" and a maximum deflection of L/175 of the span.  
  
The deflection of operable window shall not exceed L/175 and there shall be no permanent set when tested in accordance with ASTM E330-02 with a design pressure of 50 PSF.
4. Operable window shall meet Grade 20 when tested to ASTM F588-97, Forced Entry Resistance Test for Windows and shall comply with CMBSO/CAWM 301-90.
5. The operable window thermal transmittance U-value shall be 0.58 BTU/ hr\* $\text{ft}^2$ \*°F (3.3 W/m<sup>2</sup>\*K) when tested in accordance with AAMA 1503.1 and CAN/CSA-A440.2.  
Window shall be tested and labeled to N.F.R.C. standard 100 & 200 2004.  
(Note to specifier: Thermal performance depends on glass specified. Above test was preformed using 37mm double glazed insulated glass unit with low E-coating on surface #2, air filled with aluminum spacer bar and a test size of 23 5/8" x 59 1/16" (60cm x 150cm) for casement and 59 1/16" x 23 5/8" (150cm x 60cm) for awning.)
6. Operable window shall comply with AAMA 910-93, Life Cycle Test for Windows.

**MAINTENANCE AND GUARANTEE**

Provide data for maintenance and cleaning in accordance with instruction under general conditions.  
Provide a written guarantee for the complete installation provided under this section against defective material and workmanship which appears within a period of two years from the date of substantial completion.

## II. PRODUCTS

**MATERIAL**

Frame member and intermediate bars are extruded from aluminum sections of 6063 alloy, T5 temper with a minimum thickness of 0.064".  
Fastener shall be stainless steel of sufficient size and quantity to perform their intended function.  
Weathering and glazing gaskets shall be extruded santoprene.  
Exterior glazing tape shall be Tremco Polyshim II.  
Glass Setting Blocks & Edge Blocks shall be FPVC, Neoprene, EPDM, Santoprene or silicone with an 80 to 90 ± Shore A durometer hardness. Block material shall be compatible with sealed unit edge sealant. Setting blocks for sealed units with silicone edge seals must be silicone.  
Heel bead shall be silicone GE CS 2800.  
Glazing bead shall be extruded PVC or extruded aluminum.  
Thermal break shall be Polyamide.

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**FINISH (POWDER COATING)**

All exposed surfaces of aluminum window and framing members shall be free of scratches and other serious surface blemishes.

Standard

1. Interpon® D1010 thermosetting coating specifically designed for Architectural Systems that meets the AAMA 2603-02 specification that covers pigmented organic coatings on aluminum extrusions. Standard color is Standard White (GA104Q).

Option

1. Interpon® D3000 thermosetting fluorocarbon coating specifically designed for Architectural Systems that meets the AAMA 2605-02 specification that covers pigmented organic coatings on aluminum extrusions. The AAMA 2605-02 specification demands advanced levels of weather resistance, combined with excellent chemical, mechanical and anti-corrosion performance along with the maximum gloss and color retention.
2. The following semi standard colors are available:
  - Beige
  - Black Charcoal
  - Bronze
  - Graphite Grey
  - Gray Velvet
  - Grey Charcoal
  - Hartford Green
  - Iron Mountain Gray
  - Light Bronze
  - Metal Shavings Grey
  - Sea Wolf Gray
  - Standard Black
  - Standard Brown
  - Standard Silver
  - Terra Cotta

**FABRICATION**

Fabricate framing from extrusions of size and shape shown on shop drawings. Interior and exterior extruded aluminum framing sections shall be integrated with a Polyamide thermal break to form a rigid composite assembly without the use of fasteners or other thermal bridging elements. Dry shrinkage of polyamide thermal break shall not exceed 0.10% of the framing member length.

Main framing shall be designed for butt corner construction. Operating sash extrusions shall be mitred corner construction.

All framing joints shall be accurately machined, assembled and sealed to provide neat water- and airtight connection. Coupling mullions shall be designed to provide a functional split to permit modular construction and allow for thermal expansion.

All frame corners are mechanically joined by stainless steel screws. All interior joints and interior screw heads shall be sealed with a non-hardening sealant. Ventilators shall be double weather stripped with black santoprene bulb seal weather-stripping for the full perimeter at the exterior and EPDM on the interior of the ventilator.

All glazing pockets shall be vented, pressure equalized and drained to the vertical extrusions.

Glass bead shall be snap-in screwless type. Silicone heel bead shall be applied at the perimeter of all insulated glazing units.

**GLAZING**

The 9100 series aluminium windows shall be double glazed, double seal insulated glass unit with an overall thickness of 1 7/16" (37 mm). Glass thickness and quality shall conform to the requirements of the U.S.A. and Canadian Code for commercial construction, current edition. Standard insulated glazing unit includes 6mm exterior glass – 26mm aluminum spacer bar – 4mm interior glass. Maximum spacer bar is 26mm. 3mm glass is not available for this series.

**HARDWARE**

Push out ventilators shall be hung on concealed heavy duty stainless steel four bar friction hinges with adjustable friction shoe. Hinges are completely concealed when ventilator is in its closed position. Metal cam handle shall lock positively against the mounted keeper and are available as a standard in black and white. Mounted keeper shall be black or white PVC.

All vents shall be restricted with restrictor plates to 4".

Note: Roto operators are not available for this series.

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**OPTIONAL ITEMS**

(Specifier to select from the following options)

1. Glazing – Tempered, tinted & reflective, LowE performance coating, laminated glass, obscure,
2. Coupling mullions – wide range of couplers are available (all thermally broken) to suite a variety of configurations i.e.: 180, 90
3. Deflection channel, bypass
4. Mechanical restrictor
5. Separate colours on the inside & outside

Note: Insect screens are not available.

**III. EXECUTION**

**INSTALLATION**

Windows shall be installed, glazed and adjusted by experienced personnel in accordance with the manufacturer instructions and approved shop drawings. All items in this section shall be set in their correct location and shall be set level, square, plumb and at proper elevations and in alignment with other work.

**PROTECTION AND CLEANING**

Aluminum shall be isolated from concrete, mortar, plaster and dissimilar metals with bituminous paint or other isolation coatings. It shall be the responsibility of the general contractor to maintain protection and provide final cleaning.

**Laws, building and safety codes governing the design and use of this product vary widely.  
Starline Architectural Windows Ltd. does not control the selection  
And use of this product and assumes no responsibility therefor.**